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ABC Jan July 89 30,583

OPENING MENU

5 **NEWS PLUS**
The latest – first!

10 **DISC EDITORS**
Software saviours fight corruption

15 **CP/M**
SID? Overlooked? Not any more

18 **PCW CHALLENGE**
4-game compilation reviewed

20 **STREAMLINED BASIC**
How to write the programs with bells and whistles

26 **PERIPHERAL VISION**
PCW add-ons to expand your horizons

29 **LOCOSCRIPT PAGES**
Everything you need to know about labels

34 **HOTEL**
Eat your heart out Arthur Hailey!

36 **SPEAKEASY**
Brian Holley goes in search of an expert

39 **DISC DOCTOR**
8000 Plus talks to Dave Smith

42 **SPEECH SYNTHESISER**
Hearing is believing

44 **THE MEMORY GAME**
Just how does it work?

46 **DTP SPECIAL**
We explore the options –with a little help from you

53 **BOOK LOOK**
Introducing dBase and business computing

54 **BIORHYTHMN**
Peaking and troughing with Biolog's new program

59 **LANGFORD**
The columnist who needs no introduction

61 **LISTINGS**
DIY BASIC type-ins for all the family

69 **TIPOFFS**
The pages with more hints than an adventure game

75 **GOOD SOFTWARE GUIDE**
Spreadsheets, graphics and games

81 **SPECIAL OFFERS**
Come on in and have a browse

86 **POST SCRIPT**
Last but not least – over to you!

90 **BACK PAGE**
Competition details

34 HOTEL
Smooth and silent running?

39 DISC DOCTOR
Charity and corruption? We find the link.

42 SPEECH SYNTHESISER
The PCW gets more and more voluble by the minute

53 BOOKS
8000 Plus gets down to serious business

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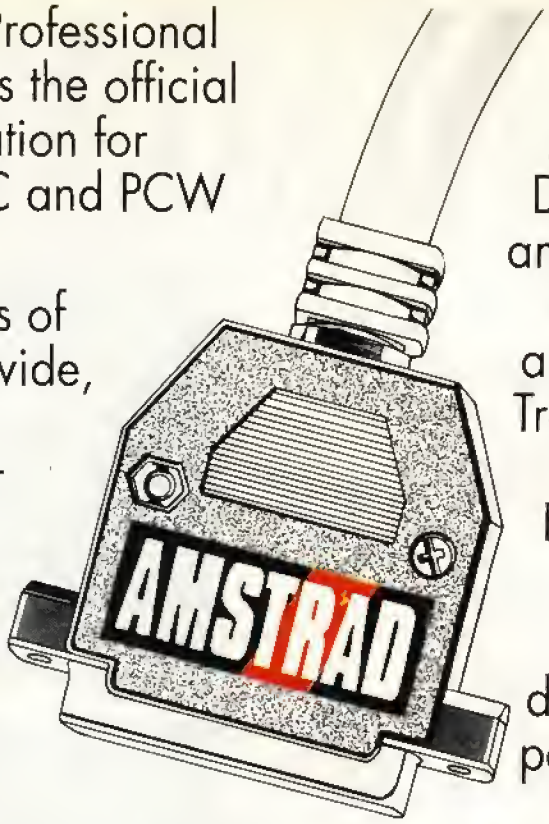

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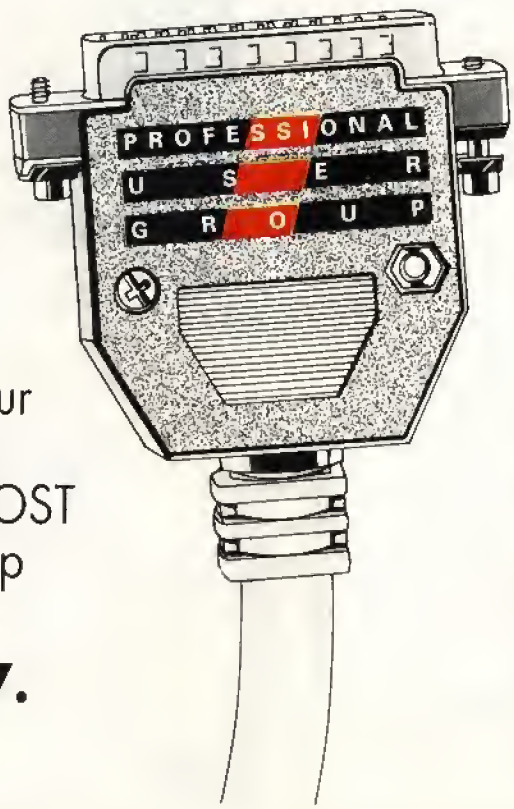

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Wising up

Amstrad, it would appear, have realised that there really is no kind of salesman like an informed one. The company's distribution wing is taking steps to sharpen the sales pitch of independent dealers by laying on a variety of training courses which span the whole range of Amstrad computers - including the PCW. .

But what about the end user? Once the decision has been taken to buy a personal computer - to increase efficiency, maximise productivity and meet deadlines with unruffled calm - it's a simple matter to walk into any local highstreet store and purchase one. It could just as easily be a television or CD player.

Yet the difference is soon obvious and the naive buyer tumbles reluctantly to the conclusion that the PCW is actually a very demanding machine. Unlike a new TV, it's not a simple matter of attaching a plug, switching it on - and waiting.

The PCW, as magazines like this one are in the business of demonstrating, is not just an electronic typewriter; it's a personal computer with a whole range of applications and software to support it.

It requires a lot of input and work from you, its user, before it will even start to yield the dividends you expected to see at the outset. And until that initial work is completed, it is more realistic to expect the machine to paralyse rather than galvanise activity for a while.

The answer lies, very simply, in training - whether formalised group learning or self-tuition. Good training doesn't have to be the prerogative of the salesperson who sells you your machine; get some for yourself and become an informed user. It's the only way to unlock the potential of your PCW and make those early expectations come true.

Happy New Year!

Shaun

Thanks for the memory

SCA systems, the West Sussex company most famous for their Real Time clock, will start shipping a RAM upgrade in the new year. This comes as the first competition to the Isenstein board which has been on the market for some months now.

The SCA RAMPAC, which we have not seen as yet, is said to provide an additonal half megabyte of memory.

In simple terms this means another 8512 added to your machine. In the case of 9512 and 8512 machines this will give a full megabyte of memory with which to play around. In real terms once you have software running you will be left with 880k on the 512k machines and 624k on an 8256.

The soon-to-be-released SCA 512k RAMPAK, built with Locomotive's support.

Happily this major memory boost for the PCW looks as if it will be easy to fit. Instead of having to get inside the machine, SCA tell us that you merely fit it into the expansion port at the rear of the PCW. It also comes with a through-port. This means that you can continue using the peripherals, such as modems, mice and extra printers. Theoretically this also means that you can mount further memory. SCA say that, "The RAMPAC has provision for a further one megabyte of RAM to occupy the maximum addressable two megabytes. "

One very encouraging sign is the involvement of Locomotive Software. Not only have Locomotive run several tests on the board, including their own RAMtest, they will also be publishing the specifications on the PCW's addressable memory. These have not previously been available. This should mean that software writers and manufacturers will be able to make full use of the board.

Howard Fisher of Locomotive told us, "What Locomotive want is freely available memory. Of course if we're to be linked with any product, that product must be of the highest quality. In fact we used two SCA RAMPACs on our PCWs at the Computer Shopper Show."

All of this sounds exciting, for current users of the machine and for the PCW generally. With more companies taking an interest in expanding the PCW's hardware potential the chances are that previously disinterested software houses will take the machine seriously. Gone are the days when people could say that the PCW was limited because there was simply no room to run anything. With a fully implemented SCA RAMPAC running on an 8512 or 9512 you could end up with a PCW2048!. Add to this a 48mb hard disc and you have a seriously hard machine which would make some so-called sexy clone PC's look to their laurels. So, come along software houses and meet the demand with supply.

The RAMPAC will be on sale in the new year at a cost of £119 plus VAT. For more information contact Peter Mydlarz at SCA on 0903 506606.

NEWS

by Tim Smith

Move on up

8000 Plus is moving. With the expansion of Future Publishing forcing writers, designers and the advertising crew to sit on each others laptops, it was decided that a plush new HQ was required.

Not wanting to forsake the beautiful city of Bath, we and our sister magazines (Amiga Format, Mac Publishing, Amstrad Action to name just three) will be ensconsed in a building three times the size of our present home. In order that we may still make use of the Bath Tandoori and other essential amenities, the new building is just around the corner. The full address is 8000 Plus, Beauford Court, 30 Monmouth Street, Bath, Avon, BA1 2AP. The telephone number is 0225 442244 but it shouldn't be used until at least January 2nd 1990.

Tooling along

Two very interesting pieces of news from Moonstone Computing. This is the company, based in Clydebank, which produces PCW-ToolKit, the disc editor that is reviewed in this issue.

Firstly, they have decided to upgrade PCW-Toolkit while retaining the current price of £24.95.

Additions to the program mean that discs will automically be formatted when copying to them. More importantly, according to Moonstone, "Version 2 can actually recover the data held in faulty sectors with certain types of damage. Previous versions and most other software couldn't read sectors which were damaged at all, and had to sacrifice them in order to rebuild the rest of disc."

In inexperienced hands any disc editor can be a potentially dangerous piece of software. Moonstone inform us that they have even taken this into consideration: "The exact way it (ToolKit v2) works is controlled by a set of new 'intelligent' commands. These default, however, to the best and safest settings, this means that inexperienced users never need to know about them!"

The manual, which was already good (if a little shabby in appearance), has been given a thorough overhaul, having been properly typeset.

Current users need not fear that they will have to fork out £24.95 for the changes; Colin Foster of the company assures us that Moonstone "... will upgrade

Power corrupts but Moonstone's ToolKit goes a long way to uncorrupt. They're even going as far as America

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existing customers' programs for £10 inclusive if they return their original discs."

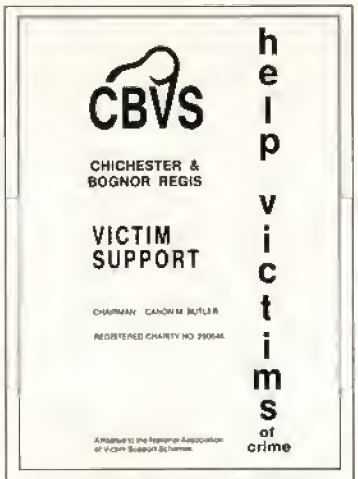
The next update from the Scot's software house is internationalist in flavour. With even the Soviet Union deciding to do its Christmas shopping at Macey's, Moonstone have decided to begin exporting PCW-ToolKit to the USA.

This project has been in the pipeline for six months. It finally came to fruition when Sinotech Ltd of Mundelein Illinois approached Moonstone. PCW-ToolKit will join other products such as Mini-Office and The Cracker in America. For more information contact the amiable Colin Foster on 041 941 3120.

Your better nature

Burglars are, hopefully, dragged into court, muggers are gaoled, but what happens to the victims of these criminals?

8000 Plus, or rather its readers, have received a plea for help from the Chichester and Bognor Regis Victim Support Scheme.



The Chichester and Bognor Victim Support Scheme appeals to your better nature.

This group is one of 320 others affiliated to a national organisation based in Brixton, South London. We spoke to the Chichester 'co-ordinator' Jill Munion who explained the role of the scheme and also aspects of training for volunteers in this emotionally charged area.

After vetting, which occurs during interview, volunteers are put through a seven week (one night a week) training course. During this time they are versed in, among other things, police and court procedure, victim reaction and associated organisations. Continous assessment is part of the course.

Completion of the course does not automatrically mean that a volunteer can then walk into the home of a victim. Assessment is still very much in force.

Successful volunteers are expected to council victims of crimes such as mugging and burglary. A volunteer with a minimum of two years experience is then eligable to deal with rape victims and the families of mudered people. Not only does this sound like a highly professional organisation, it is also one of the most worthy causes we've encountered in some time.

So what did they want? Money? Publicity? No, simply a PCW8512. Mr W G Calvert who wrote to us says that they are willing to collect and pay but, of course a gift would be more than acceptable. Any offers? If so contact W G Calvert or Jill Munion on 0243 670718.

Dealing, the good cards

No, not a game but a new 9512 starter package from Amstrad. This one is aimed at the dealers though. Over recent months you will have seen the televison advertising which has been pushing the PCW 9512. Well, according to a computer trade weekly, aptly called Computer Trade Weekly, Amstrad are offering the following deal to retail outlets.

A special starter pack containing "everything an end user needs to fully utilise his(*sic*) new word-processor from the moment of purchase. It includes blank discs, a disc holder, spare ribbons, dust covers, a VDU cleaner and 13 amp plug. Also included will be a special voucher redeemable against one of three different training courses from the Amstrad Business Training Centre".

The price to the dealer is £29.34 while the recommended retail price will be £69.99 (inclusive of VAT).

CLUB NEWS

Hampshire hogs

A communication has reached us from the Hampshire PCW User Group. Mr P C Bassett tells us that membership of the club has risen to around 35 members with around 12 to 15 attending the monthly meetings in Southampton.

The format of the meetings is consistent with a presentation followed by a general problem solving discussion. Recent meetings have involved Public Domain and games, although the latter didn't seem that popular with the group.

The latest meeting entailed a presentation by Locomotive Software's Jane Packer who came over to Southampton. She talked about recent developments within the company and also about LocoScript 2.28 and 2.29. She was then 'inundated with questions'.

The meetings are planned to continue with other guest speakers. Hampshire is a sizeable county and there must be a few thousand PCW owners resident within its boundaries (even Dorset). So why not drop Mr Bassett, the membership secretary, a line at the following address: Mr P C Bassett, 27 Fellows Street, Farnborough, GU14 6NU. You never know, it might give you the chance to get some direct feedback from companies such as Locomotive. At the least you will meet a few like minded people who can share some knowledge.

Austin's rovers

Gerry Austin of PCW-World has not only donated 4 copies of Streamlined BASIC (reviewed in this issue and well worth a look even for those readers who don't think they could ever enjoy BASIC) to the £1000 8000 Plus competition, he has also sent us the PCW-World Public Domain catalogue.

This beefy looking document contains a substantial amount of cheap software. NEWSWEEP, the space saving file manager which the 8000 Plus editorial department find invaluable, is included.

Aside from old favourites such as this, there are programming languages including Small C, which produces Z80 mnemonics – by the way the Z in Z80 stands for Zilog. Two less well-known languages, LISP and STOIC are also included; LISP being a language most closely assciated with Artificial Intelligence (also known as AI). Games such as the classic Collosal Cave Adventure and Mastermind, graphics packages and communications software are there for the taking.

All of the software is available on CF2 (A> drive) discs. If you wish to have CF2DD format, this is only available on 5.25 inch disc. Members pay £2.95, non-members £3.95, and add £1.50 for post and packaging to your total order. These prices basically cover the cost of a new disc. PCW-World is such a professional organisation that credit card orders are accepted. If you wish to find out more about the club which is probably the largest in the country outside the official Amstrad organisation, you should contact Gerry Austin on the following number: 0384 66269. You can also write to him at Cotswold House, Cradely Heath, Warley, West Midlands, B64 7NF.

Full steam ahead comrade Skipper!

The editor recently received a letter from Mrs L Y Skipper of Cleveland. Mrs Skipper is currently working on a project with the Moscow Chamber of Commerce and was in need of a Russian daisywheel for her 9512. The situation was resolved, but what is of more interest to Club News is the fact that Mrs Skipper finishes her letter with the following idea, *"There must be a lot of other users feeling isolated: would it not be a good thing if an International PCW owner's club could offer some sort of lifeline to other members? I don't know whether any such organisation already exists: if not, I would be quite happy to start one up."*

Interesting, n'est pas? We know that many people think some of 8000 Plus is written in Polish but what do you think of this idea? Please write and tell us at our swish new offices: Beauford Court, 30 Monmouth Court, Bath, BA1 2AP.

Does this man own the other 9512 in the Eastern block? It wouldn't suprise us.

Amstrad are really pitching for the PCW9512 with new incentives for dealers. What's in it for the rest of us?

At the time of going to press Amstrad's business divison Sales Manager, based in Newcastle-under-Lyme, Mr Mike Walker was unavailable for comment; he was in a management meeting. Again, according to CTW, Mr Walker has said, "This really is a superb opportunity for our dealers to get added value and extra profit in the run-up period to Christmas. Our starter pack sells well, especially amongst first time end-users and this promotion should increase this even further."

The dealers are even further enticed into selling the PCW9512 because for the cost of £1,285 they will get three 9512's with cut sheet feeders and three 'specially priced' starter packages. This would price each machine, feeder and package at £428.33 each.

The more that Amstrad push the 9512, the better it is for existing users of PCWs. We can only hope that this starter pack is available to all and not just 'first time end-users' (which end do they use?). Profit margins are profit margins and Amstrad have always been good at those. So, at around £70 a machine, the dealers are not making an astronomical cut.

For more information contact Mike Walker on 0782 566344.

Sales office

Database Software have sent us yet another press release dealing with Mini Office. According to Database, the package has "... achieved another milestone in software marketing history by notching up more than 500,000 sales."

The lucky 500,000th purchaser was 24 year Micheal Graham, a 24 year old electrician from Dover-by-Cokermouth, Cumbria. He sent in his registration card and in return received £500 worth of Sony SLV 401 video recorder. "I couldn't be more pleased", commented the lucky Mr Graham.

It is certainly good to see a piece of software doing this well.

Topologikal Jim

For a machine which isn't supposed to have anything to do with games, there seem to be a lot of them about. One company which has been been creating quality text adventures for some years now is Brian Kerslake's Topologika. With the new decade nearly upon us (or engulfing us depending on when you're reading this) Topologika have come up with some special offers.

Until February 28th 1990 their games are available for the princely sum of £11.95 inclusive of postage, packing and VAT. The following are a selection of those available:

Avon: which is based on a Shakespearian theme and which our reviewer appreciated in the November issue.

Acheton: not a sneeze but, according to Topologika, "The biggest adventure ever written."

Yes Chancellor!: an "economics simulation"; we'll leave the witty comments to your imagination.

If you buy 2 games then 10% is deducted from the price, 3 games reduces it by 20% and 4 or more cuts it by 30%. Games from this company usually offer hours of quite stimulating fun. For more information contact Topologika on this number 0733 244682.

Winter combinations

Following on from last month's databases review, Digita International tell us that their database - Datastore - is still available.

They also have two "special combination packages" featuring the Digita product range. The Home Combination Pack 1 includes Supertype II, Datastore and the Personal Tax Planner as well as Classic Invaders. It costs £49.95 and will save you £45.

Business Combination Pack 2 includes Datastore II, Business Controller and DGPayroll and Supertype II. The saving here is, £65. Contact Jeremy Rhill at Digita on 0395 270273.

Database's Chris Payne lies back and thinks of sales, sales, sales! And why not?

SNIPPETS

Thurston for knowledge

Brian Thurston of Thurston Techniques has probably got more useful discs and ideas for LocoScript users than anyone else we could name. His series of Tempdiscs contain vast vistas of Headers, characters which have been re-defined as only Brian knows how. Prices, for his multitude of handy products range from £4.95 for the Tempmate to £19.95 for the latest Tempdisc. For more information please contact Brian Thurston on 0395 277496.

It's only a name

This month's waste-a-tree press release photograph has been sent by Citizen Computer Printers. The blurb runs "Jubilant Citizen celebrated the spectacular win of the Mitsubishi-Oil Citizen team rally car in the RAC Lombard Rally driven by Pentti Airikkala." The blurb ran on, and on, and on. The picture, by the way, shows Rocky Otake of Citizen and Ari Vantanen who drove the second car with navigator Bruno Berglund. Might all this success entice Citizen into producing a cheap 24-pin printer?

Two men, one car, some dirt and some particularly amusing names.

It travels well

Over recent months, people have been asking about copying files to other machines.

Mapej Disk (*sic*) Copying Service import and export files from the PCW to machines such as IBM compatible computers. You will charged £7.50 per disc copied from. LocoScript files should be converted to Ascii. Mapej will charge 25p per file to convert. For more information you can contact them on 01 640 7676.

"The Rolls Royce of PCW desk-top publishing"

Amstrad PCW magazine, July '89.

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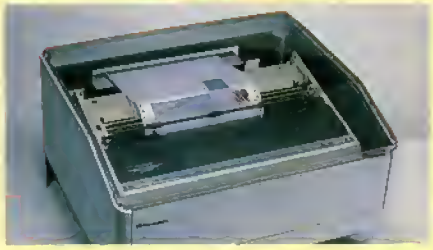

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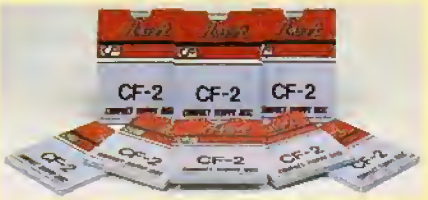

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RESURRECTION!

There can be life after death for your corrupt – oops! – corrupted files. Ever had that 'Disc error' message and found that vital disc unreadable? Maybe a disc editor can rescue your work. George Bridge undertakes to find out.

Got one of those error messages? Missing address mark? Disc unreadable? Just because your PCW can't read a disc doesn't mean you've lost all the data. It's like a record that has a crack on it; you can still access the other tracks – maybe record them onto tape – you'd just miss out the the damaged section.

Similarly, a good disc editor will let you look at any bit of a damaged disc and copy all the bits (literally *Bits)* that are OK. In practice this will probably be around 99% of it – you can recover almost all the data that was on the disc a little chunk at a time. This is why disc editors can be useful.

Anatomy of a disc

Inside the familiar rectangular case of a PCW 'disc', there really is a perfectly circular disc. It's made of thin plastic covered with magnetic material, not unlike the coating of an audio cassette tape.

How is the data actually stored? Well, like a cassette, however closely you look at it you won't see anything. Everything from LocoScript text files to BASIC programs are stored as a series of magnetic blips on the disc. Now, if all the files were stored one after the other continuously, you'd be in trouble if you came to edit one in the middle of the disc somewhere and made it longer – all the others would have to be shifted along.

So what all computers do is to split the disc up into sections or compartments. They then store the various bits of a file in these compartments and keep a note of which compartments hold which bits of the file in a special area of the disc called the '**Directory**'. When a new file is created, it's put into the nearest available empty compartments. When a file is deleted, the compartments are emptied.

Addressed to kill

Imagine a street full of equally sized houses in which a number of families live; as a family grows, some members might move to other houses. A central list of who lives at what address will let you keep tabs on any particular family. It doesn't matter who moves where – you can always find all the members of a particular family if your list is up to date. Some houses might be empty at some time, and people move in and out constantly.

If you equate a family to a file, and the central list to the directory, you can imagine how your data is stored. A house corresponds to a '**Block**' on the disc. If one house loses its number, then you have problems. But clearly the worst problem is if you lose a page of your central list – which is precisely what happens in that 'missing address mark' situation! (Low number tracks and sectors are where the Directory is stored). If your PCW can't read the Directory area of the disc, it doesn't know where to find data, and gives up in utter desperation.

The data is still there, of course – just as the various members of the family are still alive and kicking even though the page they appear on in the central list has gone west. All you have to do is make house-to-house calls to find who's where – which is exactly what a disc editor does.

When you format a disc, a pattern of magnetic tracks is laid down, each neatly divided into **9 sectors**. Each sector has a unique numerical address. It's like numbering the houses in this street, each of which also has its own unique geographical address.

What not to do

So what corrupts a disc? Anything that disturbs the magnetic blips, or more precisely fields, which are recorded on it. A really good way to ruin a disc is to run a magnet over it, but there are other less obvious ways. A ringing telephone generates a magnetic field, and can corrupt a disc nearby. Heat, dust and smoke (and tea or coffee spilt onto it) can do the same by altering the surface of the disc. Many discs just give up through old age; over two years old is heading for possible problems. Unfortunately the damage occurs completely unpredictably, and the best way to avoid it is to keep backups – copies of all your important discs.

But the two most common reasons for corruption are if the head that reads the discs is slightly misaligned, or if there's a surge of power. As much of the time the head is reading the Directory – to find out where to find the contents of the file you're working on – this means that the Directory is the area most vulnerable to corruption, just as those things you use and need most are those you're most likely to leave on the bus or drop on the floor.

When disaster strikes

The dreaded error message? The first thing to do in CP/M, if you have the error on a B drive disc is to keep retrying – CP/M often misreads a disc first time round.

Next, (or if the error's on the A drive) and if you can, copy the whole disc to a freshly formatted one so that you don't put your data at any further risk. DISCKIT or LocoScript 2 may not be able to do this for you, but it's always worth a try.

If neither can do the job, then you need to use the disc-copier function of one of the better-equipped disc editors. Once you've made (preferably) several copies of the bad disc, you can relax a little and consider the possibilities.

What files are rescuable?

What kinds of files are amenable to data-recovery? Well, any kind of text file is fairly easy, even LocoScript ones, providing you can find most of the pieces that belong to it.

Restoring spreadsheet or database or desktop publishing files can be much harder. If you have the time, study the structure of undamaged files to see if you can work out the arrangement. But it could be quicker simply to print out all the relevant figures and words you can retrieve and type them into a brand-new file.

Program files (i.e. **.COM** files) are practically never worth trying to rescue, because losing just one bit can render the whole thing useless.

Anyway, that's enough theory. Here's a list of the disc editors on the market for the PCW - and our verdicts on them.

DU

Public Domain program ● various suppliers ● included on discs £5 or £6 ● All PCWs

Two versions of this program are current: **DU86** and **DU87.** There seem to be no major differences between them. DU comes to us from non-PCW sources in the CP/M world, so some of the terminology is rather odd: 'Group' means 'Block', and 'yank' means 'copy' or 'build file'. DU is a difficult program to get used to, and the documentation is no help at all until you have virtually hacked your way into some sort of familiarity with it.

It operates exclusively from the command line like CP/M's SID. Alone of all disc editors it can be set to automatically copy up to 49K of data into what it calls 'sequential memory'. It can print out the first and last records of all the blocks on a B> drive disc. You would need a lot of paper, but the results might help to solve one of the worst problems in data recovery, a completely trashed disc-Directory.

```
:M
02-02  00 DIR-B    .    00 : 03-0A  00 J14CPM3 .EMS 00
0B-11  00 TOOLKIT .COM 00 : 12-12  00 DK-FDB   .    00
13-1A  00 TOOLKIT .COM 00 : 1B-1D  00 SUPERZAP.COM 00
1E-1E  00 TOOLKIT .COM 00 : 1F-21  00 TOOLKIT .COM 01
22-29  00 J14CPM3 .EMS 00 : 2A-33  00 J14CPM3 .EMS 01
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3B-3B  00 DISKEDIT.COM 00 : 3C-40  00 J14CPM3 .EMS 01
41-42  00 J14CPM3 .EMS 02 : 43-43  00 TOOLKIT .COM 01
44-49  00 J14CPM3 .EMS 02 : 4A-4A  00 DUMP    .COM 00
4B-4B  00 D        .COM 00 : 4C-4F  00 SUPERZAP.COM 00
50-50  00 DIRCHK  .COM 00 : 51-57  00 DISKEDIT.COM 00
58-60  00 TOOLKIT .COM 01 : 61-68  00 DISKEDIT.COM 00
```

Here Be Dragons ... DU's map of a horribly fragmented disc. Your discs will look like this after much use. The table is in two halves side by side. The Block numbers are in Column 1; User Numbers in Col 2. Then come the File names, and lastly the Extent Numbers. Read/Write access to such a disc can be very slow. You can speed up access to your discs perceptibly by PIPing the files out occasionally to a newly-formatted disc – one more of the unsung talents of PIP.

Another unique DU feature is its ability to construct a 'map' of the target disc showing which blocks belong to which files and where the free blocks are.

DU is well worth having around just for this function alone. It's still the best disc editor for getting into a really troublesome disc. However, because of the inability to edit the command line, it's unlikely nowadays that it could ever be considered the disc editor of choice though it does offer special features.

DU

PLUSES

- ▲ Best disc-editor for getting into a difficult disc
- ▲ The only disc-editor which can make up a 'map' of a disc
- ▲ Can build a file in the memory
- ▲ Accepts multiple commands
- ▲ Has Print function

MINUSES

- ▼ Cumbersome command-line operation, and worse still...
- ▼ The command line can't be edited, so on occasion a single mistake could lose you hours of work
- ▼ No copier
- ▼ Can't flow a file sequentially
- ▼ Hex display is a solid block of numbers hard to work with
- ▼ No on-screen menus
- ▼ Documentation apparently intended to defeat all but the most determined
- ▼ Find a string function is unbelievably slow

RANGE OF FEATURES	3/5	EASE OF USE	1/5
PERFORMANCE	2/5	DOCUMENTATION	1/5

8000 PLUS VALUE VERDICT 7/20

SUPERZAP

Public Domain program ● various suppliers ● included on discs costing £5 or £6

This fairly mature program could be considered the ideal beginners' disc editor if only it had a more friendly and elementary manual. Even so, if what you want is an easy-to-use, no-nonsense investigative program, this is clearly it.

Throughout its operation, SUPERZAP requires only the simplest one-key commands, except where you need to have a warning with which to concentrate all your attention (as when writing your changes to disc) and then sensibly it calls for two keys. Adequate menus appear as part of the display at all times, and only occasional reference to the documentation is required.

SUPERZAP scores heavily over all other disc editors in being able to follow a machine-code file sequentially with full reference to the addresses at which it would be loaded in the TPA (Transient Program Area) – indeed, unique among disc editors it modifies its display for .COM files to allow for the standard 100-hex origin. Its feel is very professional.

SUPERZAP's 'Find a string' function is the fastest of any disc editor, though it operates only within a file.

Finally, for what it's worth, SUPERZAP is the only disc editor which allows you to examine the structure and contents of the M: drive. Contrary to expectation, when you use [SHIFT] +[EXTRA]+[EXIT] to reset your PCW without switching off, the files in memory are not completely lost!

```
                    SUPERZAP VERSION 3.7

  N  Next sector        I  Top of file              Z  Exit from Superzap
  P  Previous sector    E  Last sector of file      L  Exit to file list
  C  Change Sector      S  Select Sector            X  Scratchpad operations
  A  Find ASCII String  H  Find Hex String
  Scratchpad :- Empty

            Select Function ===> M

     File-Name      Access          Current-Sector   Load Address
  A:SUPERZAP.COM     R/W                0006            0100

0100  CD AB 24 28  05 CD 5A 25  18 EA 11 08  06 CD BB 24  |.$(..%Z%.....;$|
0110  3A 03 02 FE  46 20 03 C3  B3 03 0E 10  11 5C 04 CD  |:...F .C.....\.M|
0120  05 04 C9 43  4F 4D 09 0A  53 65 6C 65  63 74 20 46  |..ICOM..Select F|
0130  75 6E 63 74  69 6F 6E 20  3D 3D 3D 3E  20 00 0B 24  |unction ===> ..$|
0140  45 6E 74 65  72 20 48 65  78 20 53 65  63 74 6F 72  |Enter Hex Sector|
0150  00 07 00 0B  35 46 69 6C  65 20 4F 66  66 73 65 74  |....5File Offset|
0160  20 00 0B 35  4C 6F 61 64  20 41 64 64  72 65 73 73  | ..5Load Address|
0170  00 10 02 00  4E 20 20 4E  65 78 74 20  73 65 63 74  |....N  Next sect|
```

Physician, heal thyself! SUPERZAP performs cosmetic surgery on itself. Where 'Sector' appears in the upper illustration, 'Record' has been substituted in the lower. Just press 'c' for 'Change', [TAB] to flip to the ASCII window. Use the cursor and ordinary character keys to overwrite with the new text material. Notice that the replacement text must take up no more room than the original. If you let it overrun the space, expect bizarre effects, maybe even a program crash (but not to worry – you are working only on a copy of course, yes???). Use SUPERZAP's 'Find ASCII string' to locate other candidates for change.

SUPERZAP

PLUSES

- ▲ Outstandingly easy to use
- ▲ Menu-driven: mainly simple one key commands
- ▲ Can follow files sequentially. Brill for .COM files
- ▲ Fast Find function
- ▲ Reverse-video identifies Read-Only, System and Archive files
- ▲ The best layout of any disc editor's hex display

MINUSES

- ▼ No copier
- ▼ No Print function - even the standard CP/m command '[EXTRA]+P' is disabled
- ▼ Numbers can only be entered in hex
- ▼ Find only works within files
- ▼ Not the best for getting into a troublesome disc

RANGE OF FEATURES	2/5	EASE OF USE	5/5
PERFORMANCE	4/5	DOCUMENTATION	2/5

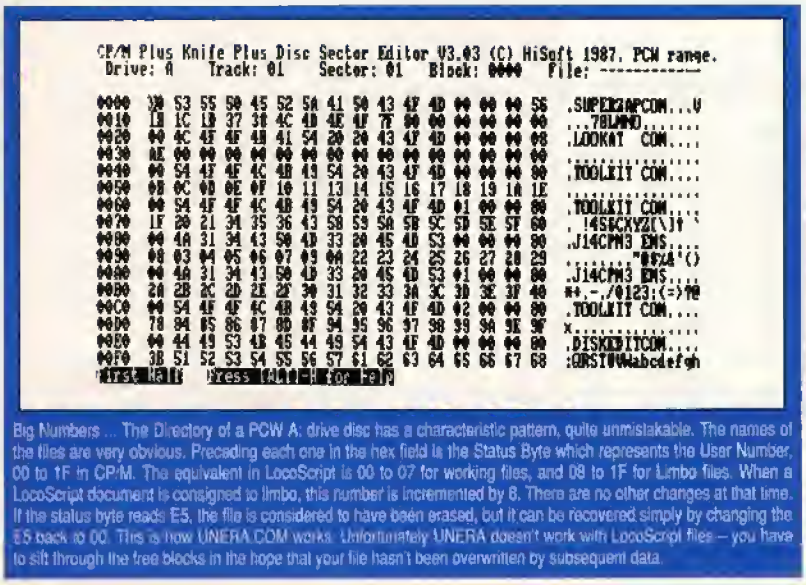
8000 PLUS VALUE VERDICT 13/20

KNIFE PLUS

£19.95 ● HiSoft ● (0525) 718181 ● All PCWs

KNIFE PLUS is also a mature program, but its also the first in our comparison to incorporate a copier which can reproduce a damaged disc regardless of errors. The copier operates somewhat deliberately but with minimal fuss. The details of faulty sectors are reported on screen and remain there, so you can usefully screen-dump the lot, by pressing [EXTRA]+[PTR], when the copy is complete. The destination disc doesn't have to be formatted in advance.

You can re-build a file in memory by scavenging the disc and picking up isolated blocks or sectors at will. KNIFE PLUS will also replace a damaged disc boot sector, though in truth this is a bit of a non-problem.



Big Numbers ... The Directory of a PCW A: drive disc has a characteristic pattern, quite unmistakable. The names of the files are very obvious. Preceding each one in the hex field is the Status Byte which represents the User Number, 00 to 1F in CP/M. The equivalent in LocoScript is 00 to 07 for working files, and 08 to 1F for Limbo files. When a LocoScript document is consigned to limbo, this number is incremented by 8. There are no other changes at that time. If the status byte reads E5, the file is considered to have been erased, but it can be recovered simply by changing the E5 back to 00. This is how UNERA.COM works. Unfortunately UNERA doesn't work with LocoScript files – you have to sift through the free blocks in the hope that your file hasn't been overwritten by subsequent data.

The displays in KNIFE PLUS are nowhere accompanied by on-screen help. Most of the commands require two keys, which might not sound too serious at first but eventually becomes a pain. The program has a moderately fast 'Find' feature. The KNIFE PLUS manual is handsome indeed, it offers an admirable overview of the program's features and data-recovery procedures on several levels of experience. The only problem is that there's not very much of it, and the difficulties of some quite ordinary file-rescue problems are breezily glossed over.

The main KNIFE PLUS programs are supported by a group of file-handling utilities of which the most interesting are **UNERA.COM** (an unerase utility) and **WP.COM**, a very neat file-copying program.

KNIFE PLUS

PLUSES

- ▲ Good copier, by a small margin possibly the handiest there is
- ▲ Can re-build a file in memory
- ▲ Can follow a file sequentially
- ▲ Can replace a damaged disc boot
- ▲ Accepts number entries in either decimal or hex

MINUSES

- ▼ No print function
- ▼ No on-screen help
- ▼ Commands mostly require two keys
- ▼ Log-in and exit sequences not well thought-out

RANGE OF FEATURES	3/5	EASE OF USE	2/5
PERFORMANCE	3/5	DOCUMENTATION	3/5

8000 PLUS VALUE VERDICT 11/20

PCW TOOLKIT

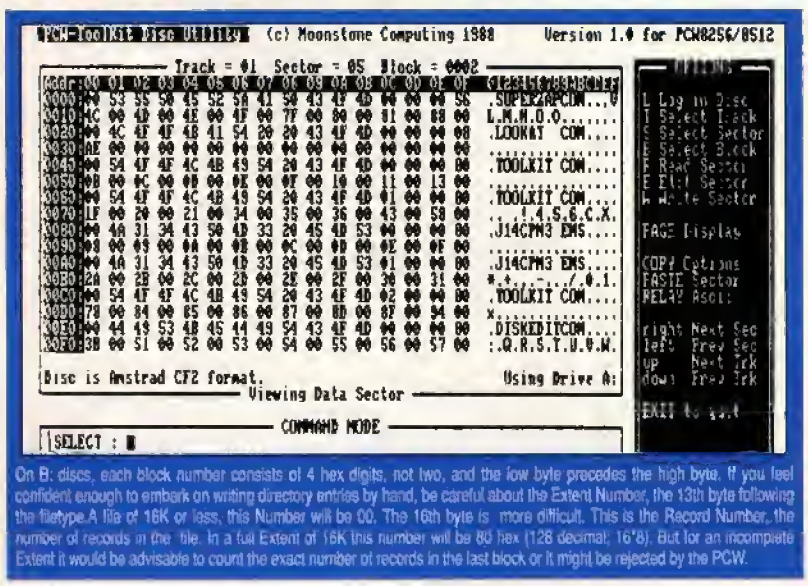
£24.95 ● Moonstone Computing ● (041) 941 3120 ● All PCWs

PCW TOOLKIT is an ambitious production, and clearly no effort has been spared to make it fulfil every perceived need in data recovery. The 70-page manual alone is a veritable monograph on the subject. TOOLKIT incorporates the by now obligatory disc-copier which pauses at every error to offer the option to flag it for subsequent attention.

The on-screen menus are about as good as they could be, and single-key commands are the rule. This is one of those rare programs which make full and effective use of the PCW's keyboard. All numbers can be entered in either decimal or hex, and both are displayed immediately. All the editing commands are well chosen, and the PASTE, COPY, CUT and FILL options are particularly impressive. If required, TOOLKIT will build you a complete new file from blocks, sectors or smaller fragments scavenged from anywhere on the disc.

It's astonishing that there is no facility for printing out data except by screen dump. The TOOLKIT manual, though, is a delight, and almost an object-lesson in how it should be done. Clear thinking in presentation is much in evidence, and there are masses of illustrations.

At the time of writing a substantially improved version of PCW TOOLKIT was being finalised, and should now be widely available. The price remains the same. To upgrade your existing copy, send your original master disc plus £10.



On B: discs, each block number consists of 4 hex digits, not two, and the low byte precedes the high byte. If you feel confident enough to embark on writing directory entries by hand, be careful about the Extent Number, the 13th byte following the filetype. A file of 16K or less, this Number will be 00. The 16th byte is more difficult. This is the Record Number, the number of records in the file. In a full Extent of 16K this number will be 80 hex (128 decimal, 16*8). But for an incomplete Extent it would be advisable to count the exact number of records in the last block or it might be rejected by the PCW.

PCW TOOLKIT

PLUSES

- ▲ Good copier
- ▲ Well-designed display and menus
- ▲ Single-key commands
- ▲ Can re-build a file in memory
- ▲ Accepts numbers in decimal or hex
- ▲ Very thorough and well-designed manual

MINUSES

- ▼ No Print function
- ▼ Can't follow a file sequentially
- ▼ No Find feature
- ▼ No reverse-video to identify Read-Only, System and Archive files

RANGE OF FEATURES	4/5	EASE OF USE	3/5
PERFORMANCE	4/5	DOCUMENTATION	5/5

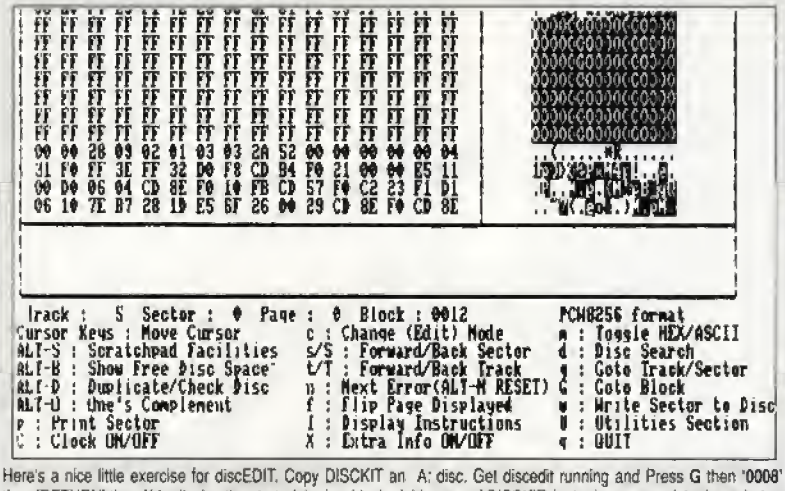
8000 PLUS VALUE VERDICT 16/20

discEDIT

£7.95 ● Donald McIntosh (47 Almondell Terrace, East Calder, Livingston, West Lothian EH53 0EZ) ● All PCWs

discEDIT is member of the new generation of disc editors, and the new approach is much in evidence. However, it is not one of those programs which goes out of its way to welcome beginners. discEDIT's copier function constructs an error-log of the faulty disc as it copies.

discEDIT has quite a good on-screen menu, and additional information about the commands can be called up if required. About half of the commands require only one key, and are mildy memorable or intuitive. The number entries are a bit of a mess. Some are required in decimal and appear in hex; others have to be hex.



Here's a nice little exercise for discEDIT. Copy DISCKIT an A: disc. Get discedit running and Press G then '0008' then [RETURN] then Y to display the start of the last block of this copy of DISCKIT. In the lower part of the hex window you should see this line of bytes: 00 00 28 09 02 01 03 02 ... Change the second 02 to 03. Now type W to write the change to disc. You now have a version of DISCKIT which formats discs with 96 directory entries instead of 64!

Editing at byte level with discEDIT is awkward. You have to leave the Edit mode before you can swap between the Hex and Ascii fields.

discEDIT is strong on peripheral features. There's a clock, octal numbering, an inverted-data option, a 'show free space' option, and a quiverful of disc-handling functions emulating the standard CP/M commands like DIR, REN and TYPE. Together with a couple of formatting utilities for variations of the normal PCW format. discEDIT's 35-page manual is on disc and has to be printed out before you can make effective use of it. Despite the long section supposedly aimed at beginners, it is strictly a buffs' broadsheet.

DISC EDIT

PLUSES
- ▲ Good copier
- ▲ Writes logs of disc errors, and can be guided by these logs
- ▲ Can print out the current sector
- ▲ Sophisticated Find function
- ▲ Reverse-video identifies Read Only, System and Archive files
- ▲ 'Inverted Data' option
- ▲ Group of supporting functions and utilities

MINUSES
- ▼ Awkward Edit function
- ▼ You can't easily quit an operation once begun
- ▼ Unable to follow a file sequentially
- ▼ No 're-build file' function
- ▼ No line numbers in display

RANGE OF FEATURES	3/5	EASE OF USE	2/5
PERFORMANCE	3/5	DOCUMENTATION	2/5

8000 PLUS VALUE VERDICT 10/20

Hexagony

Binary Code is the native language of computers, but not since the early days of computing has it been used directly to write programs in. The reason for this is that it is quite horrendously difficult to work with, and mistakes at every level from the trivial to the colossal are unavoidable. For example, a number like 10010101101011101 is prone to typing errors.

Hexadecimal numbers have now become universal as a kind of halfway house between binary code and decimal numbers. Using Hex, as it is affectionately known, we can easily handle any binary number. And at the same time, with somewhat greater difficulty we can convert Hex numbers to and from Decimal. Hex numbers run in sixteens, like so:

Hex: 0 1 2 3 4 5 6 7 8 9 A B C D E F 10 11 12
Normal: 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

'10' in Hex is actually 16 in decimal; '20' is 32; '30' is 48. The strange combination of letters and numbers which you might have seen are nunbers too; for example 27 in decimal is 1B in hex while 43 is 2B and so on.

The other major reason for using hex numbers so freely in computers is their compactness. The largest 2-digit hex number is 'FF', which is two hundred and fifty-five.

BASIC.COM, which is on your system discs somewhere, offers automatic conversion between hex and decimal (i.e. normal) numbers. To find the decimal equivalent of '9E' hex, type:

```
PRINT &h9e
```

The response is: 158. To find the hex for '232', type:

```
PRINT hex$(232)
```

The response will be: E8.

The good surgeon's toolguide

File rescue is far from being the monopoly of the big guns of disc-editing. Most people in data recovery also keep handy a small group of auxiliary utilities to deal with specific tasks. Many of these programs are in the public domain.

The best known must be UNERA.COM, which as its name suggests, can unerase a file which you have accidentally deleted. In ideal circumstances it works like magic – but for success you must have written nothing to the disc in the meantime, and there must be no other erased file with the same name on the disc or total confusion will ensue.

Another useful program is DIRCHK.COM which maps a disc in a different way than DU does. DIRCHK can cope with Xformat discs (DU can't) but it only works with one user/group at a time (DU maps all user groups).

LOOKAT.COM can display and print out a file in Ascii – ideal for speedily chasing up all those text messages in .COM files. LOOK.COM is a file-editor operating at the byte level rather like CP/M's SID.COM. COMPARE.COM will compare two copies of a file, byte-against-byte, and list any differences between them on screen or in a separate file. Very nice.

D.COM is a directory utility like CP/M's DIR.COM but only 1/15th of the size. It displays the sizes of the files on a disc, the free space available, and marks Read-Only files with a star. At 1K it is small enough to include on all your data discs. RIP.COM is a pleasant little program for copying files from disc to disc. If there already is a file of the same name, the resident file is renamed (filename).BAK, which is handy.

NEWSWEEP.COM, the leading file-management utility, needs no introduction. Not all that helpful with an unexpanded 8256 (too much disc-swapping), but absolutely indispensable with an 8512 or an upgraded machine. FILECHOP.COM is handy for dividing up long files; while MERGE.COM does exactly the opposite – it joins files together. (PIP.COM can already do both jobs perfectly well, though) Either way you are probably going to need a look with a disc-editor beforehand. The best known collection of auxiliary data-recovery programs is 'COMPLEAT UTILITIES' from Advantage, 64 Bath Road, Cheltenham GL53 7HJ (0242 224 340). It contains nearly all of the utilities mentioned above, plus SUPERZAP and many others. All the other Public Domain suppliers offer similar collections.

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THE QUIET HERO

Steve Patient meets SID, a utility whose small name belies its power

Many regular readers of 8000 Plus will be familiar with SID.COM as the utility often used in Tipoffs to change one or two bytes in an existing program. That's one function from SID's extensive armoury of abilities. SID is an acronym for Symbolic Instruction Debugger. It is designed to monitor the actions of another program. This enables the user to discover why that program is doing what it's doing.

SID loads a program and runs it under software control. It can arrange for the program to be executed one instruction at a time, several instructions at a time or can even let it run until it reaches a pre-arranged marker or Breakpoint.

SID allows you to set Breakpoints at any location. The test program will stop when it encounters one. It then hands control back to SID which then can check various values such as the Z80 registers, **counters** or **address pointers**. Values held in memory locations can be examined to see if they fit expectations.

The best way to get a feel for SID is to try using some of the commands described in this article. You'll be surprised at how much control it can give you over your programs.

Command structure

SID has a number of options, most of which are simple to use. A few of these are explained below. You can't do any permanent damage as long as you only ever use copies of the programs you are going to SID around with.

A – Assemble

Begin assembly at hex address following **A**. For example, A100 , and finish when a [RETURN] is entered on its own. Remember to finish routines with an **RST 06** command to return you to SID, like so:

A100	
0100 MVA A,#50	Load a register with decimal #50
0102 DCR,A	Decrement A
0103 JNZ 0100	Jump if not zero to 0100 hex
0106 RST 06	Return to SID
[RETURN]	

This is all assembled as you go and when run using SID it will return control to SID on completion.

C – Call

This calls an existing subroutine at an absolute address – for example at **C2FE0** – but you have to know what you're about. It can be a fast way to crash the machine.

D – Display

Usually called **Dump;** it displays memory in various ways. The default is to display the address, then 16 bytes of memory followed by the same values in the form of Ascii characters where possible (a full stop otherwise). If no address is specified then the display is from the last memory position displayed. If no second address is given then 12 lines are displayed.

D0100,0150	Display from 0100 hex to 0150 hex
D#256,#336	The same addresses in decimal
D.LOOP3	Display 12 lines from symbolic address LOOP3

There is also a word display format: **DWnnnn,mmmm** that reverses each pair of bytes displayed. This is useful for looking at tables of addresses (which are stored in low byte, high byte order internally).

```
#
M)sid
CP/M 3 SID - Version 3.0
#a0100
0100  mvi a,94
0102  rrc
0103  rrc
0104  rrc
0105  rrc
0106  ani 0f
0108  mov e,a
0109  rst 06
010A
#l0100
  0100  MVI  A,94
  0102  RRC
  0103  RRC
  0104  RRC
  0105  RRC
  0106  ANI  0F
  0108  MOV  E,A
  0109  RST  06
  010A  NOP
  010B  NOP
  010C  MOV
#
```

1 Using SID to assemble a simple subroutine. The routine will shift the bits in a byte four times to the right. This creates a byte with the value of the high nybble.

```
#xp
P=0100
#t
 ----- A=00 B=0000 D=0000 H=0000 S=0100 P=0100 MVI  A,94
*0102
#t
 ----- A=94 B=0000 D=0000 H=0000 S=0100 P=0102 RRC
*0103
#t
 ----- A=48 B=0000 D=0000 H=0000 S=0100 P=0103 RRC
*0104
#t
 ----- A=25 B=0000 D=0000 H=0000 S=0100 P=0104 RRC
*0105
#t
 C---- A=92 B=0000 D=0000 H=0000 S=0100 P=0105 RRC
*0106
#t
 ----- A=49 B=0000 D=0000 H=0000 S=0100 P=0106 ANI  0F
*0108
#t
 ---EI A=09 B=0000 D=0000 H=0000 S=0100 P=0108 MOV  E,A
*0109
#t
 ---EI A=09 B=0000 D=0000 H=0000 S=0100 P=0109 RST  06
*0109
#
```

2 Single stepping through the routine to check that it is behaving as it should. Note the values changing in reg A.

```
#s0101
0101 94 85
0102 0F .
#l0100
  0100  MVI  A,85
  0102  RRC
  0103  RRC
  0104  RRC
  0105  RRC
  0106  ANI  0F
  0108  MOV  E,A
  0109  RST  06
  010A  NOP
  010B  NOP
  010C  NOP
#
```

3 Using the Set command to alter the initial value to be shifted. The dis-assemble (List) command shows the altered version of the subroutine. Note the use of RST 06 to ensure that control returns to SID if the routine is run un-monitored.

F- Fill

This fills memory with a particular byte value and is useful for clearing an area up before having a program use it. The command is **Fssss,ffff,v**; where **ssss** is the starting byte, **ffff** the finishing address and **v** is the value to fill memory. Try not to overwrite SID or your practice program; it can be very embarrassing.

G – Go

The G command lets the test program run on its own

Poison pen

Before the friendly SID arrived on the scene, back in the early days of CP/M computing, a far less friendly debugger was used.

This had the acronym DDT which stood for Dynamic Debugging Tool. In terms of today's dynamism DDT rates against SID in the same way that Sir John Gielgud compares to Daley Thompson in terms of pole vaulting prowess.

until it hits a breakpoint or an RST 06. If neither of these happen then it's likely to crash or return to CP/M. The main forms of the command are as below.

G – Go from current program counter position (pcp)
Gp – Go after setting new pcp for the program under test
G,b – Go after setting a breakpoint at address b
Gp,b – Set pcp and a breakpoint then Go
G,b,b – Set two breakpoints
Gp,b,b – Set pcp and two breakpoints.

SID clears these breakpoints on regaining control. But you must set them unless you're certain your program will reach an RST 06.

H – Hex

This is a kind of calculator.Give it two hexadecimal numbers and it returns the sum and difference. Give it just one and it converts it into decimal and Ascii (and the symbol that number represents if there is one).

I – Input

This simulates a CCP command by allowing you to initialise the File Control Block (**FCB**) at **5CH** .

L – List

This takes code in memory and displays it as 8080 mnemonics. The three forms are:

L – list from current pcp for twelve lines.
Lssss – list from address ssss for twelve lines.
Lssss,ssss – list from first address to second address.

SID can't tell whether it's dis-assembling code or data. It's up to you to ensure that you start dis-assembly on an operand or that what you are dis-assembling makes sense. You can use List with symbols if you have a symbol table for the program under examination.

M – Move memory

This copies one area of memory to another location leaving the original unchanged. **M** needs three addresses:

Mssss,eeee,mmmm

ssss is the start address of the area to move, **eeee** the end address and **mmmm** is the start of the area to move to. You may have problems if the areas overlap.

P – Pass count

This is like a breakpoint but isn't cleared when it's reached. Each time SID hits the Pass Point, execution of the program stops so that you can see what's happening. You can add a count so that SID stops after a stipulated number of times past the pass point. The syntax is as follows:

Pssss – Set a pass point at location ssss, defaults to one pass.
Pssss,n – Set a pass point and stop every n times past it.

R – Read

Causes SID to load a file – of any kind – into the TPA (**Transient Program Area**). If it's preceded by an **I** command then everything will be initialised correctly (as if it had been loaded by the CCP).

R will read in Hex files and correctly convert them to machine code at their proper ORG address. This makes it possible to write a program in parts and then use SID to build a memory image of them. This image can be saved again as a complete working program using **W**(rite).

S – Set Memory

This shows the value of a byte at any location and allows you to set that value to another. You can also enter long strings of Ascii values in one go. After each alteration, SID increments the memory address and waits for another value. If you hit [RETURN] the value remains unchanged.

To enter Ascii characters begin the substitution with a speech mark (") and type in the list. When it's complete, press [RETURN]. To finish, type a fullstop and [RETURN]. The syntax is:

Sssss – Address to begin altering bytes.

T- Trace

Follows a program by single or multiple stepping through it while watching what's happening inside the Z80 registers. After each operand has been executed the state of all registers is displayed, as is the operand and other pieces of information which might prove useful.

T – Perform single step from current program counter position.
Tn – Perform n steps from current program counter position.

U – Untrace

The same as trace except that there is no display of the registers. It is fully monitored by SID and pressing any key halts it. The memory location reached is displayed when the break occurs.

W – Write

This writes the file in memory back to disc. You can use it to save any area of memory to a file for later use. Use **W** as follows:

Wtestfile – Write TESTFILE to default disc using the same memory values displayed when loading.
Wtestfile 0000,FFFF – Save the whole of memory to a file.

X – Examine

This displays the current state of the Z80 registers and allows you to alter any of them. You can also check the state of the flags which are displayed as: **CZMEI** for **C**(*arry*), **Z**(*ero*), **M**(*inus*), **E**(*ven parity*), **I**(*nterdigit carry*) respectively. If these flags are true then the letter appears in the position indicated; if false then a '-' appears. To see a flag's value type **Xf**, where **f** is the flag .You can alter it with a 1(true) or a 0(false). X is used as follows:

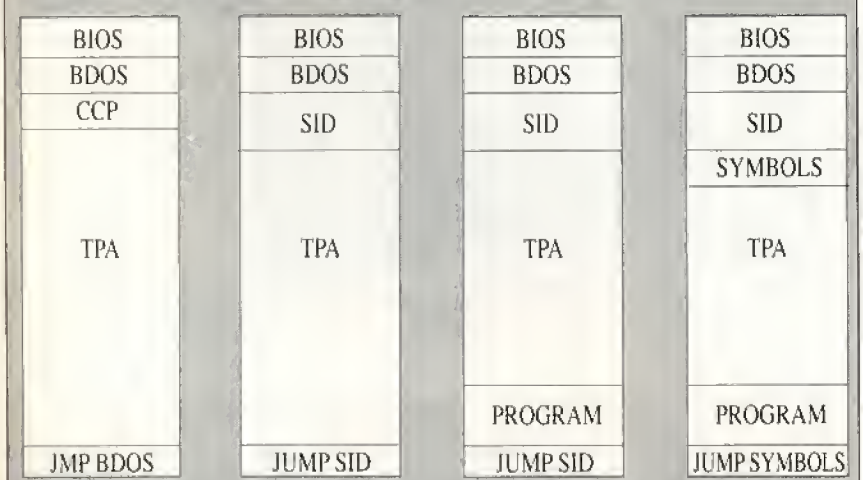
X – Look at everything
Xf – Look at (and alter) the state of a flag
Xr – look at (and alter) the state of a register ■

Symbolically speaking

Programs assembled with **MAC.COM** produce symbol tables. These are simply a name up to 15 characters long followed by an address You can load one into an editor or word processor to look at or simply type it to the screen. They can make debugging much easier since they allow you to refer to your sub-routines by their original names while using SID. This is far easier than trying to remember a lot of hex addresses. All assembler and debugger packages make use of symbol tables, not just SID.

Where SID lives

SID is loaded by CP/M at address 0100H. It then checks for the top of available memory and relocates itself there overwriting the CCP. It then adjusts the pointers to the top of memory so that the program under test won't overwrite it. It loads any options specified in the command tail (the parameters you gave it when invoking SID). If you just type SID then it just waits for instructions. If you specify a file it loads it at 0100H and waits. If you specify a file and a symbol table it loads the symbol table into high memory and loads the program at 0100H. These three possibilities leave memory looking like this:



The normal state of memory with the BDOS JMP vector at 0001 untouched

SID loads over the CCP and often the BDOS jump vector to point to itself. Another jump inside SID redirects it to the BDOS

SID with a program loaded ready for debugging

SID with a program and the relevant symbol table loaded for debugging

LocoFont

Give your PCW some style

MODERN: After disconnecting the mains power...

OLD ENGLISH: The Old Antiques Shop, 27 The Square, West Street

PENMAN: *It seems ages since I last wrote to you – and longer since we met...*

ROMAN: The minutes of the meeting were accepted...

SANS SERIF: Taking this as our hypothesis, we can...

***SCRIPT**: We're glad to hear that you enjoyed the surprise party...*

STANDARD: Please find enclosed confirmation of your order...

CAPITAL: FOR SALE: MINI 1000 – GOOD LITTLE RUNNER...

COPPERPLATE: You are invited to a housewarming party...

DECO:
Avacado Pear with prawns

DEFINITE: We have been forced to adopt a tougher approach...

FINESSE: The fête this year will be held on the 10th June...

MINI 15/17: This package is supplied on the terms shown below...

Mini PS: A word processor provides a facility to create documents...

Please send me the following for LocoScript 2:

LocoFont for the PCW8256/8512 Printer

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PLAYTIME

The idea of four games on one disc sounds like good news. Tim Smith puts on helmet and visor and sees what cards fate has dealt.

PCW CHALLENGE

£14.99 ● Artronics ● 0423 525325

PCW Challenge is a compilation of four games; a racing simulation, a helicopter attack piece, a turgid strip poker endeavour and a flight combat program.

The final game from that list goes by the name of ACE. Not merely a shoot 'em up, you play the only pilot from a crack AWAT (All Weather, All Terrain) combat team who is available to defeat a vast enemy attack force. The first thing you have to do is take off - not as easy as it sounds. You must get the velocity and altitude right - and don't forget to pull the undercarriage up. The game can be played with keyboard and/or joystick but playing without the latter is laboured due to the fact that the software refuses to communicate with the keyboard at any noticeable speed. Still, once you're in the air this rarely matters because you seem to get blown right back out of it within a matter of seconds.

This is where Level 1 – Training – comes in very handy. During training, no one shoots at you. You, however, can fire at whatever crosses your path, get to grips with mid-air refuelling and attempt a landing or two. Including training, there are nine 'skill' levels, although none of them appear to differ that much in terms of terrain. ACE is the only game to come with on-screen scoring and high score table. It will probably keep you amused for a few hours.

Formulaic one

This racing simulation sees you spidering around tracks ranging from Silverstone to Jerez - most of which look uncannily similar. It is all done on never-ending hills and you have the object of day or night driving. The object of the game seems to be to keep going until your fuel runs out as there are no such things as pit stops. You achieve this feat using the left and right cursor keys to change gear (there are six). Once in the correct gear, the same keys are used to steer. Be warned, the other drivers are pyschotics who would rather crash into you than see you triumph (or Maclaren for that matter).

Having played this on three of the office machines, it appears that the PCW keyboard just isn't scanned often enough by the software and this makes the play sluggish. This is a criticism of all four games.

If you can get up into fourth gear, you will begin to speed around the circuits. Using third gear as a brake should keep the other vehicles at chassis length. The game falls down on three major points. Firstly, there is no score or high-score table. In effect you are racing against your fuel. Secondly, the scrolling is abysmally jumpy. Thirdly, you find yourself reliving the same piece of track, time and time again. All in all, the game has the feeling of a BASIC listing with a few mildly interesting graphics.

Joker in the flak

The other two games in the package are Strip Poker and Skywar. The former is introduced as "...a card game for connoisseurs of all ages". Obviously they don't mean all sexes. We can only hope that Artronic do not seriously mean that this game is suitable for children.

Even the most perverse adult would be disappointed as the wildest the game gets are the jokers. A choice of two atrociously hand drawn nymphettes lie pouting in what looks like a prison cell. As the blurb says, 'Samantha and Sabrina are waiting to show you what they've got; and I don't mean their cards!". Nor for that matter does *he* mean their card-playing skills.

The game is slow and the betting bears no resemblance to real poker. On the up-side, pressing [f3] disables the bleep. We discovered this purely by accident when bashing the hell out of the keyboard in an attempt to shut the machine up. The manual does not provide this information. Not only does this game lack skill or thrills it is also a cynical, deeply sexist attempt to push a hackneyed poker algorithm.

As for Skywar, the helicopter simulation, you have a two player option and sound. Well, ' bleep-bleep' is the report of your fiersome artillery. There is no score given. You move from left to right using the cursor keys, the space bar fires and that's that. A hit might destroy an enemy, it might not. ■

Cabbage crates over the briny and tally-ho! chaps and chapesses. ACE sees you as one against thousands in airborne combat.

Formula 1 you really are the lucky one, getting to race a bunch of crazed psychotic drunkards around an exceedingly monotonous race track.

A quick glimpse of Skywar, Artronics helicopter-flight simulation game. Your aim is to shoot down an anonymous horde of baddies

IN A NUTSHELL

If there is a saving grace for this package it has to be ACE which is still only mediocre. Formula 1 might hold the imagination of an eight year old for ten minutes. The other two games are mere fillers which lack imagination in sound and graphics. Keyboard response is poor. £14.99 should really be £10.

PCW CHALLENGE

PLUSES	MINUSES
▲ ACE is playable and not a mere shoot 'em up	▼ Poor scrolling
▲ ACE can be played with a joystick	▼ Sexist
	▼ Tired graphics

PLAYABILITY	1/5	ATMOSPHERE	1/5
DOCUMENTATION	1/5	ADDICTIVENESS	1/5

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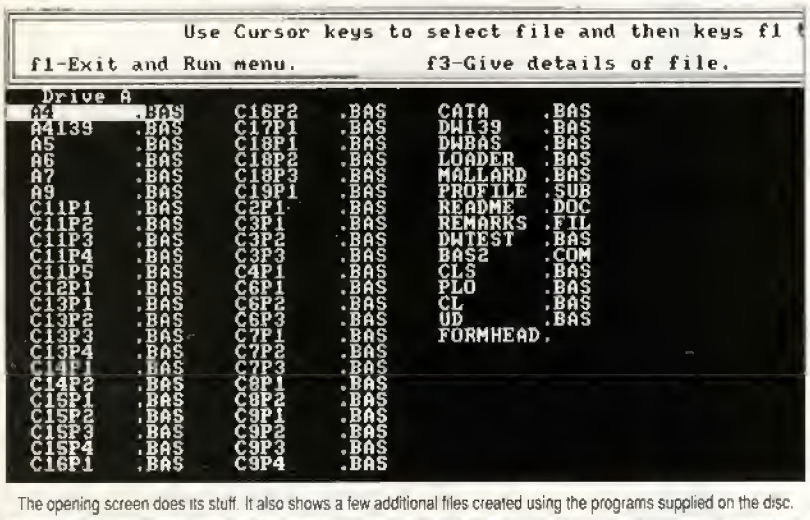
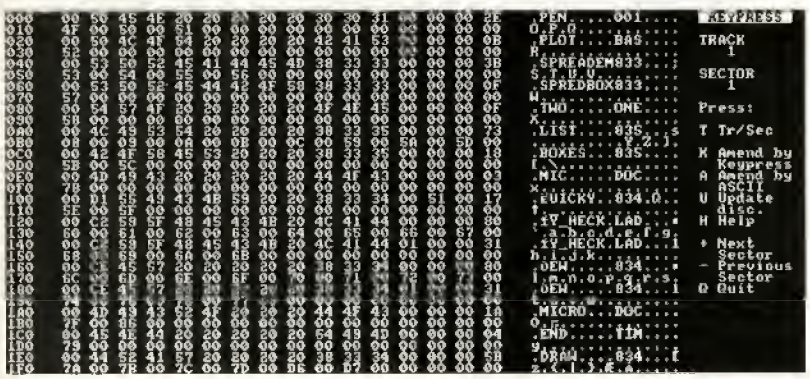
STREAMLINE OF CONSCIOUSNESS

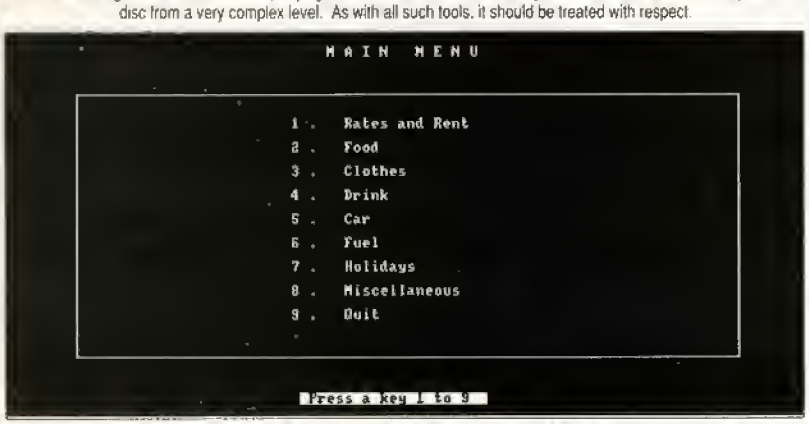
Streamlined BASIC by Geoffrey Childs is a book and disc which seeks to help the PCW user get more from Mallard. Tim Smith looks into it.



The opening screen does its stuff. It also shows a few additional files created using the programs supplied on the disc.



Included among the files on the accompanying disc is this disc editor. It allows you to both examine and modify files on disc from a very complex level. As with all such tools, it should be treated with respect.



Another of the Streamlined disc files is this menu sub-routine. Not only will it allow you to study some clean programming techniques, it can also be incorporated into your own programs.

STREAMLINED BASIC

£18.95 (book and disc) ● PCW-World ● 0384 662269

Geoffrey Childs is known and respected as the programmer of Lightning BASIC. His latest venture is Streamlined BASIC a package comprising a 112 page guide and A drive disc packed with some 54 files. Some of these files act as object lessons in programming, both good and bad, and also as extensions to Mallard BASIC.

Streamlined BASIC is not aimed at the complete novice to BASIC programming. However, its sphere of interest takes in those PCW owners who have just started to dabble in the language as well as those of you who feel that you are already accomplished technicians. This said, it might not be a bad idea for the truly adventurous beginner to give the package a look over. What you get is a highly individual overview of programming technique, a number of useful tips and shortcuts and some very handy small programs to complement your own work.

Styled high

Streamlined BASIC is published by one of the newer PCW user clubs – PCW World. The manual is a laser printed tome which sadly lacks a thorough index. To give you an idea of the approach taken by the author, chapter headings such as 'Input Techniques' go shoulder to shoulder with 'It Pays to Increase Your Word Power'. Generally the style is a mixture of professionally termed advice, debate and a quirky sense of humour. It definitely does not feel like the classic 'manual' or tutorial. What is does feel like is the work of a writer enamoured with his subject and eager to show like-minded souls just how much they can get from their PCW.

Unlike any other book of its kind on the market, great use is made of the first person singular. Opinion is used as opposed to gospel truth. Using this style programming begins to look more like the enjoyable art it could be and rather less like a system whose rules are carved in stone. For the newer user this will hopefully garner enthusiasm. For the more experienced types it will probably engender some heated argument.

Stepping stone

The book is split into three sections. These can be viewed roughly as follows. Section 1: a short, friendly introduction which includes explanations of existing (and neglected) BASIC commands and routines. Section 2: an examination of the workings and design of memory; included here are graphics, sound and method of writing .COM files from BASIC. Section 3 contains the appendices of which there are ten. These encompass areas of knowledge and programs which were either too big to be afforded a full explanation had they been included in one of the chapters or are additions to what came before.

The accompanying disc saves you having to type in, and

Geoffrey T Childs, the man who Streamlined BASIC.

About the Disc

Streamlined BASIC – the book – is accompanied by an A drive disc which contains 54 files. These are meant not only to be illustrative but also to be examined, modified and possibly improved upon. With this in mind, the first thing you will need to do is make at least one back-up copy of the disc.

The main group of files are related to specific chapters of the book and are referenced like this; C3P2.BAS,(Chapter 3, Program 2). These can be accessed straight from BASIC in the normal way or by making use of the PROFILE.SUB which accompanies the disc. This SUBMIT file presents you with an on-screen index of the available files running from a program called CATA.BAS. You can examine each one in a similar way to LocoScript's Inspect File option. You can run programs directly, run them and list them or simply list them. Obviously this will index on any disc and can be used as a file organisation system. The really handy aspect of it is that you can write small descriptions of each file which can be updated and viewed.

Aside from those programs already mentioned, you also have access to a program called DWBAS.BAS for the 8000 series or DW139.BAS for the 9512. This is a version of Mallard BASIC with a few extensions. For example, there is a built-in clear screen command, a windowing command and the ability to alter the printer output from NLQ (near letter quality) to draft from within a program.

You are required to use DWBAS in order that the longer programs in the appendices can be run. However, this is no hardship and you may even find yourself using DWBAS as the standard BASIC for your machine. The mere ability to clear a screen with two keypresses makes BASIC programming a great deal easier.

To detail each of the programs would be a real pleasure. Many of them, such as the disc editor or the formatting program which runs faster than Diskit (and checks to see whether the disc has already been formatted) cast a whole new light on the possibilities of Mallard. Unfortunately there just isn't enough space. The only shame is that the final listings which draws a picture of the train after which Mallard basic was named, does not appear to want to work.

get wrong, the various listings which act as the only illustration. The first section contains a list of questions aimed at making you think about the subject at hand rather than accepting that the author is directly linked to the facts. For the most part these questions (all of which are rhetorical) are addressed to the more experienced user - someone who has written at least two programs. Questions such as "Do you religiously, occasionally or never put in REMs?" and "Do you think that JETSAM is the best thing about Mallard, could be used on occasions, or is too complex to try to understand?" are thrown at you. The idea here is a sound one; the reader and potential programmer are encouraged to join in rather than being lectured. More Mr Chips than Mr Gragrind.

Following this, and an all too brief section on Planning, we are confronted with Everyday Problems in Chapter 2. This is rather like being caught in the blast of a scatter gun. Subsections on creating clear screen routines rub shoulders with an informative explanation as to why you only have 31k free to work with in BASIC. Wedged between these is a piece about randomising the PCW's internal clock. Each of these sections include a few sample pokes and are tenuously linked by the fact that they all relate to BASIC. In fact, the connections throughout the book appear arbitrary at best.

However, if you are prepared to be assaulted with ideas and experience then this eccentric layout is bearable. Luckily nearly every page contains some useful piece of information; a routine to save an entire screen to memory or disc and then to recall it and a method of slowing the rate at which your PCW scans the keyboard are just two examples.

Addressed sense

One of the most useful sections appears in Chapter 14 and is entitled 'Useful Addresses (and probably one or two useless ones as well!!)'. This informs you as to the location of several handy functions which can be peeked at and poked into life. For example the address of a strange message, something to do with Acorn Computers to be exact, which hides in memory. Other addresses are of a more practical nature and cannot, to our knowledge, be found in any other publication. At least not in this kind of user friendly form.

Streamlined assumes no knowledge of machine code or real low level (complicated) programming. Or at least that's what it says in the introduction. This claim should be taken with a pinch of salt. When an address is explained as **65413/4 [65492/3] is start of XDPB for A, 65381 [65331] for B** general feeling must be that some fairly deep knowledge is assumed. By the way the figures within the [ ] refer to the addresses as they appear in BASIC V1.39 which applies to the PCW9512. Where possible throughout the book any differences between the 8000 series and 9512 machines are highlighted.

Coming to take you away

One section of the book which can be found scattered about many other publications goes by the name; "The Magical Mystery Tour'. This contains a quite fascinating run down on of the way in which BASIC handles and is handled by memory. Included here is a list of the various 'blocks' which make up memory. In effect you have a small written 'map' of your computer.

One of the great pities of the whole book is the lack of illustration. Such things as diagrams or screen dumps would certainly have made the more complex concepts less so for the newer user.

This becomes something of a problem within the Graphics section. Concepts like Roller Ram are not the most intuitive things in the world with which to get to grips.

Over all, Streamlined BASIC is well worth the near £19 asked. The disc alone includes so many truly useful routines, none of which are protected, that it covers half the price. As a package it takes some getting used to and some more getting around. The lack of index does it no justice as the more you use it, the more you find yourself wanting to use it; having to search through for addresses or references really should have been taken into consideration. Having said that it also remains the case that there is information to be had and plenty of it. Geoffrey T Childs' experience, skill and in-depth knowledge manages to sneak past the rather frenzied presentation and planning (in a close race) to produce a worthy addition to any PCW owner's book and disc library. ■

STREAMLINED BASIC

PLUSES	MINUSES
▲ Plenty of useful tips, shortcuts and utilities	▼ No diagrams, screen dumps in manual
▲ Programs on disc not protected	▼ Rather scatty layout
▲ Treats BASIC as lively, human subject	▼ No index

RANGE OF FEATURES	5/5	EASE OF USE	4/5
READABILITY	4/5	LONGEVITY	4/5

8000 PLUS VALUE VERDICT 17/20

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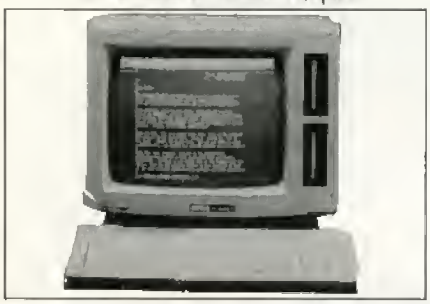

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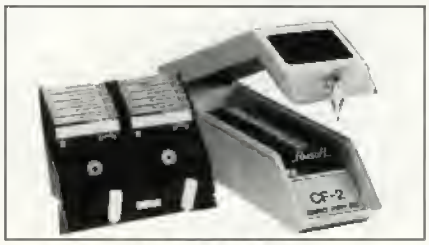

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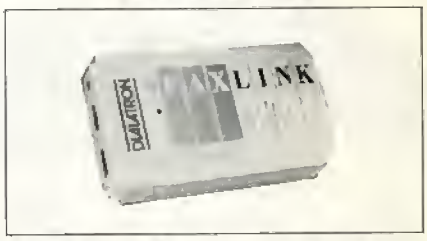

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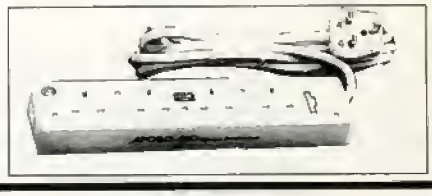

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NEW!

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For 8256/8512 users only. Displays a second menu bar at the bottom of the screen giving the up-to-date settings of paper, Length, Spacing, Gap, Pitch, Margins, Tabs, Bold, Double, Italic and Underline. Any item can be changed at will and text can be sent direct to the printer. Instructions on disk.

Only £7.95 or together with PCW SuperDOS for £34.95. SAVE £2.95!

After running your programs you return automatically to SuperDOS. You need never see the A> prompt again! SuperDOS also includes a 'notepad' for reminders, to-do lists and the easy writing of batch (SUBMIT) files. SuperDOS adds four new 'built-in' commands, including COPY, IFNOT and a pause command for inclusion in your batch files. For 8256/8512 users there is improved control of the printer from the DeskTop. SuperDOS is fast, is packed with features, and has been designed to feel like Locoscript so will appeal to reluctant CP/M users and power users alike. SuperDOS includes some or all the features of DIR, PIP, ERASE, RENAME, TYPE, SHOW, SET, RPED, DISCKIT, SUBMIT and DATE. SuperDOS requires a minimum 512K RAM, and will work with the new memory expansion boards. It is programmed in machine code using only documented CP/M techniques. Unfortunately it is NOT designed for use with a hard disk. Would make a lovely Christmas present!

PCW SuperDOS costs £29.95, including a ring bound manual.

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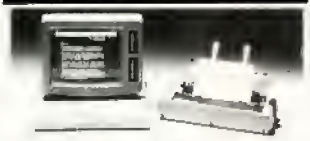
AMSTRAD PCW 8512



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- High res.screen
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PCW PRINTER 8256/8512

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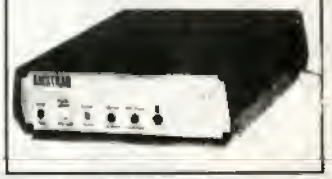

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PERIPHERAL VISION

Printers

Although all PCWs come with a printer (and for most people this is the reason for purchasing the machine) there is no harm in upgrading. For PCW9512 owners, the addition of a dot matrix printer will allow for graphics output and faster draft quality printing. Listed below are just a few of the printers available for the PCW.

Printer	Price	Telephone
Star LC-10	£259	0494 471111
Star LC-15 (9 pin)	£299	0494 471111
Panasonic KX-P1081	£219	0753 73181
Citizen 180E	£299	0895 72621
Brother M-1109	£195	061 330 6531
Amstrad DMP3250di	£199	0277 228888
Juki 7100 (24pin)	£900	0256 473232

Ram board

Isenstein, always in the forefront of design for the PCW, brought out the RAM Upgrade board. This adds an additonal 512K of memory to your computer. Since the initial board was released, the company have come up with a RAM pack which fits onto the machine's expansion port. You will have read in news that SCA Systems are also bringing out a RAM upgrade; we haven't had the chance to review it yet but will be doing so soon.

Before the days of 1024K memories (K stands for kilobyte or 1024 bytes) there were also memory upgrades for the 8256 owner. These consisted of chips which were fitted onto the 8256 motherboard. Sample prices for these, and the isenstein details, are given below.

Product	Price	Telephone
Isenstein RAM upgrades:		
512k RAM pack – external fitted	£119(+VAT)	
512k RAM card – internal fitted	£98.95(+VAT)	0244 822768
Sample 256k upgrades:		
West of Britain Business	£37(+VAT)	0558 823782
Cyca Ltd	£49(+VAT)	01 70 4004

Hard discs

A hard disc rids you of hours of tedious disc swapping. Backing up can be achieved rapidly, and you know where everything is. A hard disc is basically a larger, more versatile version of the smaller discs you put in your drives. They come in various sizes, normally ranging from 20MB (megabytes) upwards. A megabyte, by the way, is 1024 kilobytes. If you consider that an A drive disc is able to hold about 173 kilobytes then you get some idea of how big 20MB really is.

Drive	Price	Company	Telephone
Diamond (32MB)	£465	Cirtech	0896 57790
Diamond (48MB)	£545	Cirtech	0896 57790
Web (20MB)	£499	Timatic	0329 236 727
System 2000 (40MB)	£499	Ideal Hardware	01 390 1211

Interfaces

Your PCW can be a very lonely machine unless it is provided with the ability to communicate. Peripheral devices such as printers, modems and MIDI simply will not talk to the PCW without the use of an interface. The expansion slot at the back (just below the printer port) of your PCW is the place for an interface. So, if you want to communicate, have a look at the list below:

Interface	Price	Company	Telephone
CPS8256	£59.95	Amstrad	0277 4545555
PCW	£49	MCS	0602 391204
SCA	£49.95	SCA	0903 700288
Parallel I/O	£55.95	SM	0323 766262

PERIPHERAL VISION

Modems

If you cast an eye over the interface section, you will see mention of modems. These are becoming more and more popular as both home and business computing moves out of the cubby hole and into the real world. A modem will allow you to a) communicate by telephone line with other users, via Bulletion Board Services (BBSs), b) have your own electronic mailbox on systems like Telecome Gold, and c) even use Prestel. As the months go by a modem becomes a must. Just a few are listed below:

Modem	Price	Company	Telephone
SM2400	£286.35	Amstrad	0277 228888
TM602	£343.85	Tandata	0684 892421
TM500	£171.35	Tandata	0684 892421
Linnet	£174.80	Pace	0274 488211
Linnet 1200 Exec	£347.30	Pace	0274 488211
EC2400	£279	Hi-Tec	0733 52440
Detton II	£103.45	Hi-Tec	0733 52440
Minimo Plus I	£224.25	Dowty	0635 33009
Miracle WS300	£339.25	Miracom	0473 2338888

Disc drives

You have probably seen 'other' machines with weirdly-sized disc drives. Gone are the days of the mammoth 8 inch disc drive. The industry standard (which means IBM used them) for some time has been 5.25 inch; these are still very cheap to buy. Then came the 3 inch drives which you have on the PCW. The new standard is set to be 3.5 inch. The more popular the drive, the cheaper the disc. Listed below are a few of the drives available for your PCW:

Drive	Price	Company	Telephone
Pace 5.25 inch	£166	Pace	0274 488211
KDS 5.25 inch	£159.95	KDS	0485 32076
Compact Micros 3.5 inch	£94.94	Compact Micros	0274 640589
KDS 3.5 inch	£129.95	KDS	0485 32076

Mice and Lightpens

Many people find trying to draw or create graphics by means of the cursor keys a quite unnatural process. Since the inception of the WIMP (Windows, Icons, Menus and Pointers) environments used in software such as Stop Press and Master Paint, mice and lightpens have become more popular.

Product	Price	Company	Telephone
AMX mouse	£47	Database	0625 878888
Kempston mouse	*	Kempston	0234 841224
Cadmaster Lightpen	£29.95	Trojan	0792 885564
Electric Studio Lightpen	**	Electric Studio	0462 420222

* Only available with various Kempston software products. Kempston have said that in individual cases they might reconsider.

** Only available with Electric Studio's Newsdesk International.

Joysticks

Alien space marauders always move faster than you do, as do helicopters or fighter pilots. The best way around this is to use a joystick. The PCW is not exactly well endowed with these creatures but a few are listed below:

Joystick	Price	Company	Telephone
Quickshot II	£5.95	A to Z Computers	01 744 1834
Quickshot II Turbo	£11.95	A to Z Computers	01 744 1834

Advertising---Architecture---Artwork---Booklets---Brochures---Business Cards---Cartoons---Catalogues---

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MICRO Design II

Read what the Reviewers have to say
"New lease of Life for the PCW"
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USE "It takes about an hour or so to get on speaking terms with MicroDesign". "The most un-artistic user should be able to produce basic illustrations." "MicroDesign has been created with the end user in mind." "The program is meant for grassroots users."

FEATURES "It does everything you are likely to need in designing and laying-out your artwork". "With normal typing skills any document can be made to look attractive." "An important feature of the program is auto-flow around graphics... the text you enter will automatically flow around the picture." "The impressive way (it) copes with text." "There's speed like you wouldn't believe possible from the PCW." "Very fast - puts rivals to shame." "(They) have thought of everything."

PRINTING "The print quality, even from the PCW printer, knocks spots off the competition." "Output is extraordinarily good" "...found it hard to believe. The quality was far in excess of my hopes." "...the high graphics resolution produces higher quality text even from the standard printer." "....extremely high resolution printouts which set the software apart from its competition".

STOP PRESS "MicroDesign II takes over where Stop Press leaves off. There is no chance of Stop Press being upgraded to compete with MicroDesign II now and in fact there would be little point: there is just too much ground to make up...it would make little sense to choose Stop Press. MicroDesign II would win out for the printer support alone".

THE ACCOLADES "They have introduced a desktop publishing program which surpasses anything else.. the last word in the development of text and graphics manipulation for the ubiquitous PCW." "Does almost everything better." "This beats the lot." "The results are superb." "Brilliant and sophisticated." "Beats the opposition hands down." **"The Rolls Royce of PCW desk-top publishing."**

QUOTATIONS FROM: The Guardian; 8000 Plus; Amstrad PCW; Micro Computer Mart; New Computer Express.

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Runs on the PCW8256, PCW 8512 and the PCW 9512. Fully compatible with files from LocoScript 2, Protext, Wordstar, AMX Stop Press, The Desktop Publisher, Mini-Office Professional, Rombo Vidi Digitiser, Master Scan and other PCW software packages.

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Your PCW 8256 will need a Memory Upgrade for high resolution printing

MEMORY UPGRADES

Upgrade your PCW 8256 memory to 512K with our best selling kit. Almost an essential for **MicroDesign II and Locoscript 2** + disc copying.

Our simple instructions assume no prior knowledge, experience, or skills. We supply TOP QUALITY chips jig preformed for ease of insertion. NO BENDING REQUIRED, plus a 'Practice' chip. Simply 'Plug in & Go'
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SAVE £5 ON ABOVE WHEN PURCHASING A DRIVE

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★ **NEW FD4** for PCW 9512 drive A replacement.....(£103.48 +) = **£119**
5 ¼" PACE external 40/80 track self powered drive for data transfer between PCs and all PCWs, using TDOS software supplied (£116.52 +) =**£134**

SOFTWARE

LOCOMOTIVE SOFTWARE. All new stock. Prices include VAT
For the PCW 8256/8512

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LocoFont Set 1	£16.95	LocoScript 2 + LocoSpell	£27.95
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WILLING AND LABELLED

Learn how to print out on labels: Sharon Bradley shows you the fast and easy way

The Christmas and New Year period is the one time during the year in which we traditionally renew old acquaintances and get back in touch with all our far-flung relatives. This is probably all it takes to send your PCW's disc drives whirring and printer chuntering in a flurry of perfectly-LocoScripted letter production.

But whether it's the season of good will or not, the last thing you're going to want to do is sit down in a corner with pen, bulging address book and, by now, solid wedge of envelopes to manually address each one. Wouldn't life be much easier if you could somehow find a way of using your PCW to print out the full list of names and addresses you needed on, say, a roll of 11/2" continuous label paper? All you would then have to do would be to stick each label on its appropriate envelope.

If you've been particularly clever in the way you go about organising your New Year correspondence, you will probably have created a file on your LocoScript disc and given it over exclusively to the names and addresses of the eventual recipients of your letters – rather like a LocoMail mailmerge datafile.

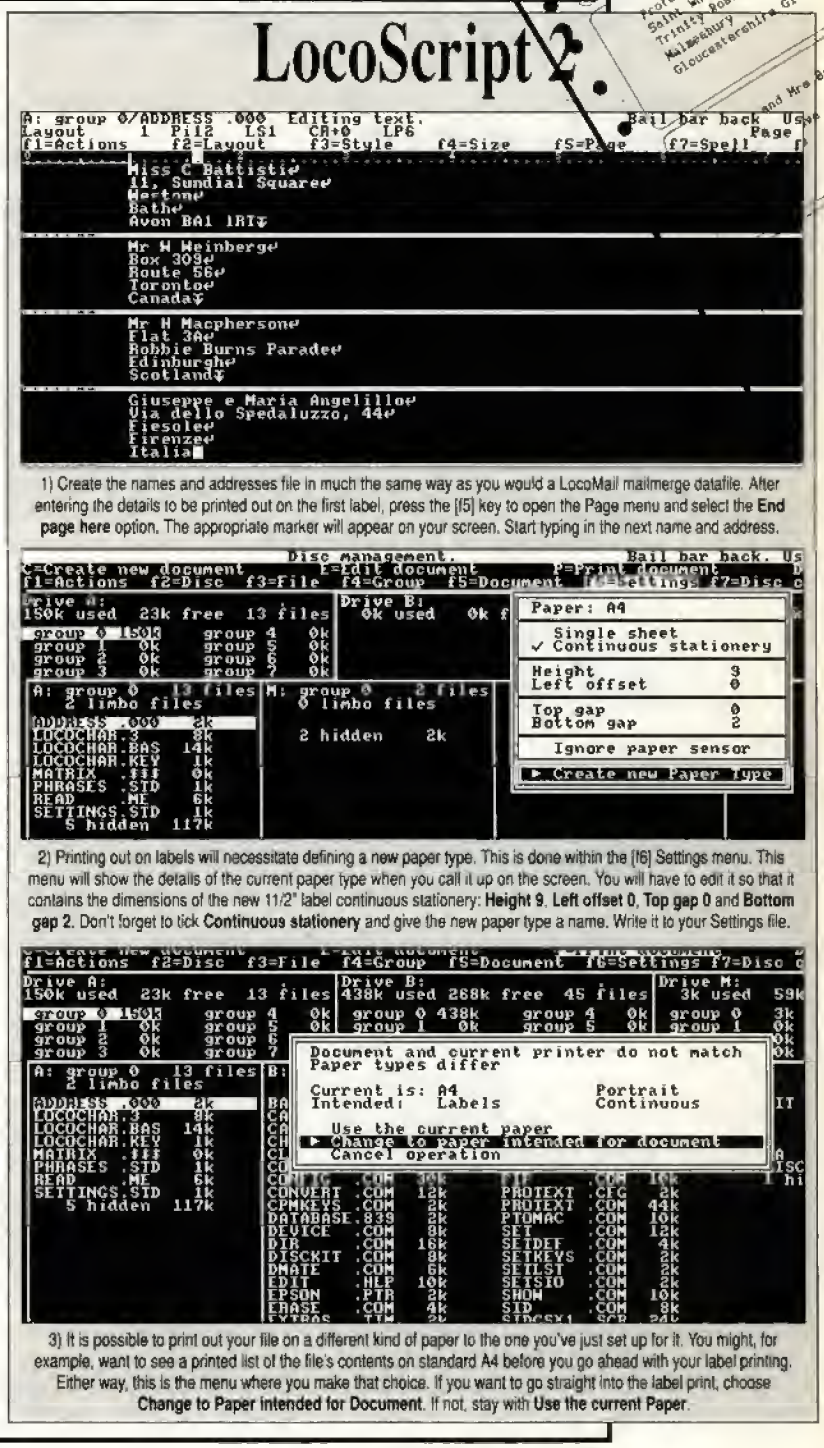
Although it's obvious that you're not going to want to carry out a full-blooded mailmerge on all your personal New Year correspondence (at least, one hopes not), holding a separate file of names and addresses does allow you to 'insert' in one go the correct address at the top of your letter. This can be done using LocoScript's cross-file copy and paste facility. This file will, however, be essential if you want to print out all the names and addresses on continuous label stationery. So how exactly is it all done?

LOCOSCRIPT 2

Create a name and address file in much the same way as you would create a LocoMail datafile. Press [C] to open a new document and start typing. In order to print out each label correctly, LocoScript demands that the information to be printed on it – the name and address – must be treated as an individual page. At the end of every address, therefore, simply press [f5] to call up the Page menu and choose the **End page here** option. The marker denoting the end of a LocoScript page will appear on the screen; type in the next address, and so on, until all the recipients' details have been entered. Press [EXIT] and then **Finish edit** in the usual way to save the document – called something logical like **ADDRESS**.

We then have to set up a new paper type so that the printer can accommodate the continuous label stationery we've chosen. Back at the Disc Management Screen, press [f6] to bring LocoScript 2's Settings menu up onto the screen. Select the **New paper type** option at the top of the menu.

As we saw last month when creating a new paper type, this menu is already filled in and shows the details of the current paper type. You must change the information on the screen to accurately reflect the dimensions of



1) Create the names and addresses file in much the same way as you would a LocoMail mailmerge datafile. After entering the details to be printed out on the first label, press the [f5] key to open the Page menu and select the **End page here** option. The appropriate marker will appear on your screen. Start typing in the next name and address.

2) Printing out on labels will necessitate defining a new paper type. This is done within the [f6] Settings menu. This menu will show the details of the current paper type when you call it up on the screen. You will have to edit it so that it contains the dimensions of the new 11/2" label continuous stationery: **Height 9**, **Left offset 0**, **Top gap 0** and **Bottom gap 2**. Don't forget to tick **Continuous stationery** and give the new paper type a name. Write it to your Settings file.

3) It is possible to print out your file on a different kind of paper to the one you've just set up for it. You might, for example, want to see a printed list of the file's contents on standard A4 before you go ahead with your label printing. Either way, this is the menu where you make that choice. If you want to go straight into the label print, choose **Change to Paper intended for Document**. If not, stay with **Use the current Paper**.

your new 11/2" label paper type.

First of all change the default paper type to **Continuous stationery** using the [+] key to the left of the space bar. Next alter the **Height** of the paper to 9. Why 9? we hear you cry. As far as LocoScript is concerned, each label is to be treated as a page. The distance to measure, therefore, to calculate the height (or depth) of our 'page' - albeit a little one - is the distance between the top of one label and the top of the one below it. In our case, the distance is 11/2". We must then multiply that measurement by 6 (basic line pitch) to calculate the height, or, more exactly, the number of printable lines per label. This works out as 9.

Next, set the **Bottom gap** (the number of printable lines to be left blank at the bottom of each label) to 2 and set everything else – the **Left offset** and **Top gap** options – to 0. They don't concern us here. Give the new paper type you have just created a name by moving to the top of the menu and typing over the name of the former paper type. **11/2" Labels** seems an appropriate name.

Since labels stationery is continuous, make sure that the **Ignore paper sensor** option hasn't been ticked. If it has, clear it. Move back down to the bottom of the menu and select **Create new paper type**.

Back at the initial [f6] Settings menu, choose the **Write SETTINGS.STD** option to save the new paper type to the program's settings file. You will need to insert your original LocoScript 2 start of day disc in the drive to do this. If you don't write this paper type to the Settings file, you will have to redefine it next time you need to print out on labels.

Open the names and addresses file we created earlier on under [E]dit and press [f1] for **Document Setup**. Open the [f5] Page menu and choose **Paper type**. Highlight **11/2" Labels** using the [+] key, and then press [EXIT] and [ENTER]. This will take you back to the familiar names and addresses file.

Finally, before printing out, don't forget, as we saw last month, to **Change to paper intended for document** when the **Document and current printer do not match** warning appears on the screen. Proceed with the print.

LOCOSCRIPT 1

As with LocoScript 2, create and save your names and addresses file, not forgetting to call up the [f6] Page menu after each entry has been typed in to force an end of page marker. Back at the Disc Management Screen, press the [PTR] key once to enter the printer control state and then [f1] to open the Options menu.

The resulting menu is the equivalent of the menu we used under LocoScript 2 to create our new paper type. Here, highlight **Continuous stationery**, again using the [+] key and set the **Form length** (or **Height**, as it was called in LocoScript 2) to 9. Enter 0 at the **Gap length** prompt.

All you have to do after that is press the [EXIT] key to come out of the printer control state and you will be ready to print out your list of labels as normal.

One more thing: make sure the printer head is positioned at the top of a label before starting. If the printer starts to move at a skew-whiff angle across the continuous labels stationery for whatever reason, press first [PTR] then [f7][ENTER] to stop printing, followed by [EXIT]. Line up the stationery again (a tractor feeder will stop the paper slipping on the platen) and restart printing.

You'll have address labels whizzing off your PCW's platen in less than the time it used to take you to even so much as find your old address book. Reluctant letter writers will have to start thinking up some other good reasons as to why they can't lend a hand at the annual Hogmanay roll-call.

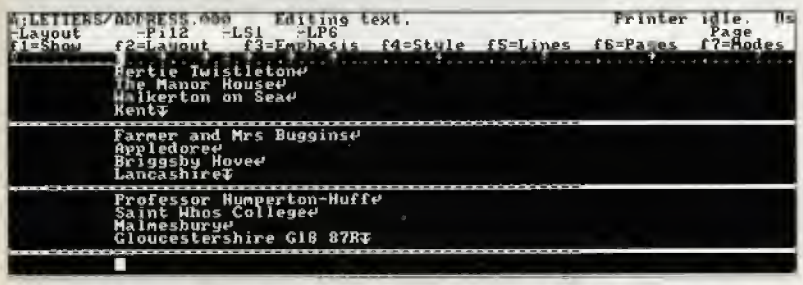
Form of address

With both LocoScript 1 and 2 don't forget that it is not essential for the paper type that you have set in the document to match the paper type that you print on. Even though we've set up our names and addresses file to print out on 11/2" continuous label stationery, it is still possible to print out the file on standard A4 paper. Doing this will simply give you a list of the file's contents for easy, portable reference. You never know; it could make a handy Filofax update.

You might prefer on the odd occasion to print out a particular name and address directly onto the envelope. To do this, open the **ADDRESS** file, set the left margin at, say, 35 and the right at 70 and clear any tabs. Save these changes, and at the Disc Management Screen, highlight the name of the file with the file cursor and press [P]. Choose **Print some pages** and enter the number of the page containing the details that you want to print on the envelope. This is where a printout of the list would come in handy; it would save you having to open the file and scroll your way slowly through it just to find the page number of the details you want to print.

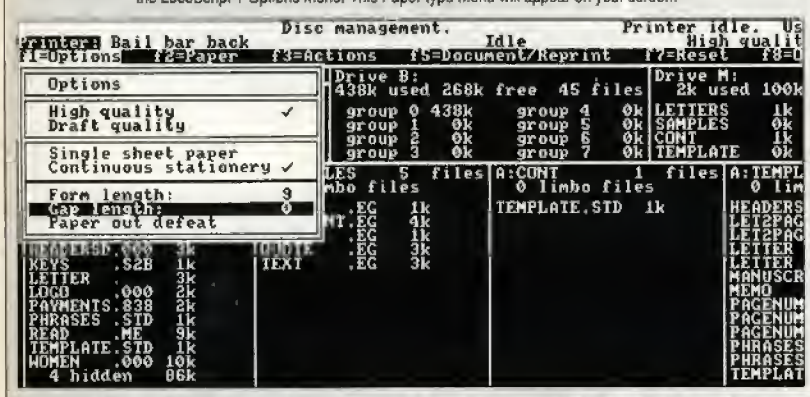
This method, needless to say, will not prove particularly time-effective if you've got more than a handful of addresses that you want to print. ■

LocoScript 1



1) Create the LocoScript 1 names and addresses file in exactly the same way as when in LocoScript 2. After entering each recipient's name and address, open the [f6] Page menu and choose the **End page here** option to force a LocoScript page break. Save the file as normal.

2) From the Disc Management Screen, press the [PTR] key to move into the printer control state. Press [f1] to open the LocoScript 1 Options menu. This Paper type menu will appear on your screen.



3) Make the following alterations to LocoScript 1's paper type menu: tick **Continuous stationery**, set the **Form length** to 9 with the **Gap length** 0. Press [EXIT] to leave the printer control state and print as usual. Away you go with label after label ready just to stick on your envelopes.

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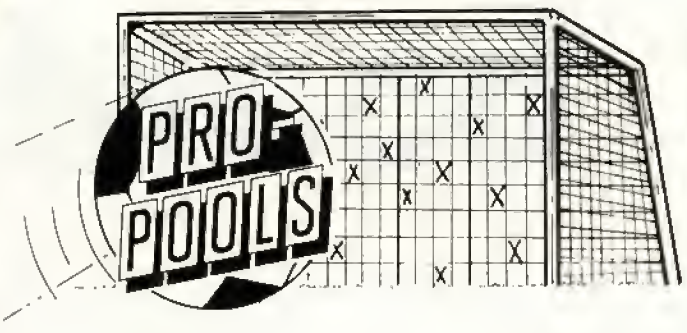

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Bolt-on extras

Hotel is described as a hotel booking, registration and billing system, and can be used in conjunction with Cavalier's INTACT accounting system (£74.95), and DINER (59.95), the restaurant and room service package from the same company. It can be used on any PCW, but in order to use the complete range of goodies available, a twin drive machine is required.

This Christmas, fifteen relatives of varying shapes and sizes will be honouring our house with demands for bed and board. Having insufficient time to take a crash course in hotel management, and having insufficient fingers to keep count of the guest list at any one moment, this reviewer fell upon Cavalier Software's new product as an answer to a prayer.

The manual, while lacking the strong narrative style of Arthur Hailey's work of the same name, is excellently written in plain English, and assumes minimal knowledge of computers – always a good sign. It starts by telling you how to make a start of day disc, which is done by loading BASIC and typing RUN "HOTEL". You are then asked a few questions about your PCW and the program informs you when and where to insert various discs. After a few minutes you have a self-loading start of day disc, and another disc prepared to record all the data. This process is completely painless and has been designed for users who don't know their PIP from their PROFILE.SUB.

The opening menu to Cavalier Software's Hotel: select **Departures and Billing** to enter your hotel's name

Defining the various room types, including the tariffs for various periods throughout the year

Room with a view?

Having created the start of day discs, the next step is to create your hotel. The start of day disc auto loads, and prompts you for today's date. The main menu then appears, and selecting **Departures and Billing**, allows you to enter your Hotel's name and address, together with such details as the VAT rate and the number of your first invoice. Having done this, Floppy Towers is launched, and you can get down to the fun part of detailing the rooms.

The first module of the system is **Room control**. This enables you to define up room types, which could vary from **Unconverted stable - share with ox and ass** to **Private suite with own pool**. (Yes, for only 2500 Francs a day you can stay in such luxury at the Hotel Le Mas D'Artigny, near Nice, which boasts 25 such suites. Renault entertain the motoring press there. Software publishers please take note.)

The system provides for 13 types of bedroom and a further 13 types of function room. The next thing is to set up the room status codes, numbered 0-9. Of these, 0 is reserved for **Available, no problem** and 9 for **Unavailable**. The rest of the codes are user definable, and the examples given range from **Needs new linen** to **Major decorative problems**. A status code greater than 4 will prevent the room from being booked.

Minor niggle number one is that the **Needs new linen** example is rather misleading, as when a previously **Available, no problems** room is vacated, it reverts to that status although it will obviously need new linen. Another option in this module allows you to set break dates – you will not necessarily want to charge the same rates throughout the year – and you can set five such dates. Finally, you assign a room type and a status code to each of the rooms in your hotel, give them prices for each season, an optional short description, and Floppy Towers is in business.

Printing fits

This module also contains facilities for displaying or printing a list of all the rooms, with their codes, status and bookings taken. The printout gives you today's date, and a name to the bookings. The screen display doesn't, which is a pity. There seems to be no easy way of accessing the date on screen, which seems rather an oversight, as a wrong date at start of day, or a computer left running overnight could cause a lot of problems.

Finally, there is an option to list rooms vacated that day, which is useful for housekeeping. Unfortunately this will only print out, does so without prompting for paper, and will only work once, so if you had no paper in the printer, you are left, as I was, trying to decipher your list from the marks left on the roller.

The next module is for booking and registration. Having selected the minimum standard of room required, and when

and for how long it is required, the program will display, one by one, each available room of that standard. If it doesn't find one, it will move up to the next standard. A curious glitch here is that the room status line isn't cleared each time, so if a room that was **Available, no problems** is followed by a room that is **Very damp** this will be displayed as **Very damp, no problems**.

Having found a suitable room, the guest is then booked in, and their name and details taken. When the guest arrives, their name is typed in, and the details of the booking appear on the screen. A registration card can be printed, and details of alarm calls, special requirements and up to three newspapers noted. Various other choices in this module allow for alteration, cancellation or confirmation of bookings.

Guest spot

The next module, which Cavalier describe as the part that "will bring a rosy glow to the cheeks of your accountant", produces the bills. As well as keeping track of the room bill, this can automatically charge phone calls, newspapers, and, if used with DINER, meals to a guest's bill. In addition, other items can be added to the bill manually – food and drink, say, if you are not using DINER. A not so minor niggle here is that you have to work out the VAT on these items manually. Rather irritating that, from a computer.

The day's departures and alarm calls can be listed to screen or printer, and bills and receipts printed out. Finally, a summary of the days receipts can be produced, with details of who paid how much and by what means. As with the list of vacated rooms, this goes to the printer only, without warning, and can only be done once.

Other modules of the system include telephone call logging, a complete newspaper ordering and billing system, and finally, a guest database, useful for sending mailshots, or possibly reassigning a guest to a favourite room. This again contains a rather sinister Fawltyism - **Delete old guest**.

In all, the package seems efficient, well thought out, and easy to use. There is no direct way of seeing a day's bookings, which seems rather an oversight, as it would be very useful in terms of housekeeping to know how many guests were expected on any one day. There are a number of minor and not so minor bugs, such as those mentioned above, error messages that don't clear when they should, and the need sometimes to delete invisible numbers when a mistake has been made. Let us hope Cavalier will put these right, and please, give us a date up on the screen. And perhaps an index to the otherwise excellent Manuel?(sic) ■

Mind the language

Observant readers will have noticed the phrase "loading BASIC" in the opening paragraph, and yes, the programs are written in Mallard Basic. This is one in the eye for programming snobs who wouldn't be seen dead using anything less esoteric than C, as the result is extremely professional.

Hotel amends the features and details of a specific room, in this case room 3.

THE SECOND OPINION

Bournemouth hotelier Martin Barnes

When it comes to hotels, it's clear that Martin Barnes from Poole knows exactly what he's talking about. Former student of the exclusive Lausanne Ecole des Hoteliers, he is currently preparing himself for a major, once-in-a-lifetime purchase: a twenty-five bedroomed hotel in Bournemouth.

It looks set to be an unqualified success. As well as having spent eight years working in various hotels dotted around London's West End, he has, in his time, helped set up and run both a commercially-operated hotel in Bermuda and a private American university in Strasbourg.

Following his return to more inhospitable climes, he became the Hotel Catering Course Director at Bournemouth Management College – a post he still holds and obviously enjoys. He finds that his PCW 8512, which he has been using for the past four years, combined with Cavalier Software's Hotel, provides one of the most valuable teaching aides that he has at his disposal.

User-friendly package

'I've used a number of hotel catering packages with my students in the past,' explains Martin. 'The trouble is that they tend to be so needlessly and hopelessly complex, that my students tend to become both disheartened and disinterested very quickly. The beauty of Hotel is that I can use it to simulate some quite interesting and complex business games for them to play around with. And the program is neither so sophisticated nor inflexible that they can't successfully compact what would probably amount to 24 hours' theory into half an hour's practice.'

Martin is certainly anxious to praise Hotel's flexibility. 'The hotel business is all about human beings – selling them a commodity and interacting with them throughout the course of that transaction. Human beings are, by their very nature, unpredictable; they're always changing their minds. This is something that a good hotel manager must always bear in mind.

Hotel is a fast, friendly – and above all – very adaptable program. You don't need to know everything there is to know about hotels before you can get the program up and running successfully on your PCW.'

Hot-line help

Martin is particularly impressed with the back-up that he's received from Cavalier Software in the form of accompanying documentation and hot-line help. 'On a number of occasions I have left questions on Bill Week's answering machine and he's got back to me almost immediately. The manual is very well written. One thing that I particularly like about it is that it advises you to start using Hotel with just a corner of your business and to slowly commit more and more data to the program as you go along. It's very sound advice.'

We asked Martin if there were any ways in which he felt the program could be improved. His main concern seemed to be that there was no straightforward way of changing a guest's room number other than re-registering his or her arrival. The same is true of trade accounts (business guests who refer the bill to their company). 'You must find out at the beginning if the guest or the company is paying the bill because there's no way to suddenly change to a trade account while the guest is checking out.'

Martin also told us that British hotel guests can be divided into two groups: British passport holders and non-British passport holders. When booking into a hotel, the former are legally required to submit their names and addresses only, despite the fact that most hotels and bed and breakfast places nearly always insist on them leaving their signatures as well.

The latter, meanwhile, are legally required to state where their passports were issued, where they are going, how long they will be staying at the hotel and, finally, their passport numbers. 'These details haven't been included in the package,' points out Martin. 'The registration card asks simply for each guest's name and address – which isn't legally correct.'

Cavalier actually say that Hotel has been written specifically with small- to medium-sized hotels in mind. Martin feels, however, that it is the turnover rather than the size of the hotel that is the most important issue. 'If you've got a particularly busy reception desk, it's going to be difficult seeing to more than one guest at the same time. The answer might lie in having more than one networked computer on the desk at any one time.'

Martin was particularly impressed with the quality of Hotel's printout – especially the bills. 'You can set the program up so that it automatically inserts the name of your hotel; the printouts are neat, well laid-out and legible.'

Martin is now busy preparing himself and his family for the new venture which will start on New Year's Day if everything runs according to plan. One thing he's adamant about: his PCW 8512 and Cavalier Software's 'Hotel' will be with him every step of the way! ■

SPEAKEASY

Help! Brian Holley goes in search of that all too elusive commodity

Brian Holley is a local government officer who has been setting up and managing databases for the last eight years. Having accumulated a significant store of CP/M and MS-DOS-based knowledge over the years, he became a proud owner of a PCW 8256 in 1987.

I've discovered that there's no such thing as a 'computer expert.' Oh yes, there are people who have expertise with computers, but that's not quite the same thing. Ask a systems analyst, for example, something about programming and this 'expert' will invariably look to the floor, start shaking his head and mutter something about it being 'Donkeys years since I touched any coding', and refer you to some preoccupied introvert down the corridor. Putting a question about hardware to a programmer results in a journey to a guy wearing tee-shirt and jeans who jabbers on enthusiastically about blitters and transputers and who finally leaves me fumbling for my pocket computer guide and thinking that perhaps I failed to graduate from kindergarten.

I recently had cause to phone Amstrad concerning a hardware problem I'd come up against. A pleasant-sounding young lady, who clearly didn't know one end of a parallel interface from another, took my query. She told me that she would have to find an available 'expert' who would presumably be able to explain the problem – so that she could promptly (I fondly imagined) relay the reply back to me.

Yes, you've guessed it, by the time I got the answer it had degenerated into a rather terse and unsympathetic 'You'd be better off having a talk to the retailer you bought the machine from.' Have you ever tried to extract an intelligible answer from any of Messrs Dixon's 'computer experts'?

Manual exercise

The problem is that computers have now become so complex that no one can know all there is to know. This problem is further exacerbated by the fact that those who do know some of the answers seem totally incapable of successfully communicating them to mortals of average intelligence like you and me. In the absence of fully-fledged 'experts', hapless users are tossed onto the sometimes rocky and inhospitable shores of software manuals and 'user-friendly' packages.

The realisation is slow and painful. Unwrapping that brand new, recently-acquired software package, you turn to the first page of the accompanying manual. Your fate, it would appear, is firmly sealed. Unlocking the secrets of this particular piece of software is going to be a real barrel of laughs, involving a long series of protracted nightshifts, fuelled only by an intravenous supply of coffee and some sturdy matchsticks.

Of course, the difficulty with a software manual is that it is invariably the last job to be completed. Months, even years, have been spent slaving over a hot computer by the time the boss casually asks 'Ready for release next week?' and deals the fatal blow. The programmer, who can't hear anything or anyone while her head is buried deep in a cathode ray tube, makes some sort of noise that he can only interpret as assent. The boss gleefully tells the man from marketing to go ahead and the next thing the programmer discovers is that she has to work 25 hours a day for a fortnight to write the manual.

There's definitely something to be said for writing the manual first. That's not quite as impossible as it might at first sound. The first draft of the manual should describe exactly how the system is to operate and act as a detailed specification for the programmer. It might also ensure that the programmer produces a piece of software that is easy to use because the instructions make sense. They used to call this 'user-friendliness', but I've seen some very odd examples of it so I disclaim ownership of the term by placing it in quotes.

People-literate software

One example of such 'user-friendliness' is the best-selling word processor Word Star. If you want to see a fine example of persuasive marketing technique at work, take a look at how the company sold this package – with such hideously unmemorable mneumonics – so successfully to so many people. Once you've learnt that [CTRL] (or [ALT])/[J] means 'help', it is quite difficult to get it out of your system. [ALT]/[Y] means 'delete a line' in Word Star; in Protext, however, it means change to the other screen. It's easy to sustain some quite nasty shocks when switching from Word Star to Protext; go to delete a line, and all your work vanishes.

I have to admit that the first time I used LocoScript, I thought it had been named after the mental condition of the person who wrote it. Having used many other systems, nothing seemed obvious and I was forced to sit down and read the manual – something I hate doing. When I am introduced to a new piece of software, I like to be able to load it and get going without first having to read the m anual, no matter how well it has been written.

I still find LocoScript's drop-down menu system a cumbersome one to use. I find myself suffering from withdrawal symptoms when I sit, temporarily paralysed at the keyboard, unable to simply key in the command I need. But I suppose that's the kind of immediacy I prefer from a word processor. Having said that, LocoScript 2 is a big improvement on its predecessor with its accelerated screen scrolling. It remains a powerful word processor by anyone's standards and is accompanied – to boot – by a highly proficient user guide.

Needless to say, limitations are placed on the 'user-friendliness' of a given package by the power of the machine on which it is run. The PCW's 64K-worth doesn't permit a lot of interactive resident software to be packed in alongside other programs; once again, most users must rely on the written word. One good thing about mediocre manuals is that they provoke a spate of 'How to ...' books that enable the more innovative computer journalist to earn an honest crust.

The answer seems to lie in helping yourself wherever possible. The PCW, unlike some other machines whose technical architecture seems to be changing almost daily, has enjoyed a long period of consolidation. Little by little, therefore, it should be possible to build up an ever-increasing store of knowledge that concentrates on particular aspects of the machine and software that interest you most. Before too long, you will be hailed as a PCW 'expert' – in your own right. ■

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DOCTOR AT LARGE

As well as a full day's work, Dave Smith has been running his data recovery service for three years now. Tim Smith went along for a checkup

Dave Smith is not a real doctor at all but definitely a man whose 'phone number every diligent PCW user should have - especially on that emergency services list!

Dave Smith is a civil servant by day and software saviour to countless PCW owners by night - and the occasional weekend. His extracurricular line of business is an unusual one; not only does he regularly cast himself down among the bits and bytes of corrupted discs to save valuable data that is stored on them, he donates any profits that he makes in the process to a charity called BACUP, the British Association of Cancer United Patients. His data recovery service was registered a limited company earlier this year when it enlisted the practical help and moral support of regular 8000 Plus DTP contributor and expert, Dave Axford. We went to London to talk to Dave Smith and find out a little more about the unique service that he offers.

8000 Plus: *Dave, first off thanks for sparing us your time. Is there any reason why you chose BACUP as the charity your data recovery service would support?*

Dave: Well, the whole thing started off years ago in an attempt to win some Tipoffs prize money. Everybody kept writing in about missing address marks, the reason being that they had not done a warm boot in CP/M – they hadn't pressed [STOP] or [ALT]+[C] after changing a disc.

But there also seemed to be more errors occurring than could be accounted for by this. One day a guy upstairs from my office brought me a disc with a missing address mark. I'd bought a few disc editors like Knife and I had a lot of public domain programs. So I had a go at this disc.

I saw exactly what had happened - and fixed it. He said that he'd like to give me some money and I said, 'No way; I do this kind of thing for fun.' So I said to a chap who worked for me at that time, 'Look, I don't want to take money for this. What sort of charity could I send it to instead?'

It could have been anyone. He suggested BACUP which, as you know, is apposite to backing up discs. That's how it started. I rang them up and asked them to send my details to people. They said fine and ran an article about it. The whole BACUP thing originated as a rather bad pun.

8000 Plus: *What kind of computing background do you have?*

Dave: Not much really - well, not as far as micros are concerned. About twenty years ago, I worked on some of the few mainframes which were around at the time. My very first job was on one where you booked it for an hour, sat down and literally flipped switches; you drove it. We worked in machine code, which I'm not very good at, or they used autocodes, which were completely trivial compared to what you get in a programmable calculator nowadays - let alone a PCW.

So a lot of programs I worked on concerned data transfer: getting data from magnetic tape to a computer and then from a computer to a different kind of mag' tape.

The next machine I encountered was the RML380Z. We were always hacking programs in order to make them look prettier on screen. I used DDT (Dynamic Debugging Tool) which is SID now. But I always vowed never to buy a home computer; that was until I saw the PCW in Dixons. I took two hours to suss it out and thought, 'This is fantastic; disc drive, monitor, everything I've been waiting for in one package.' So I bought it there and then.

8000 Plus: *And what did you do with it?*

Dave: The first thing I did was to tailor some of the programs I'd written on the RML380Z to run on the PCW. In fact, I have Fortran programs running on it now. As I said, I had already bought a few disc editors in order to change programs more easily than DDT or SID.

One of the weaknesses with the programs I had before was that none of them had facilities to copy damaged discs. The first one on the market to be able to do that was Knife.

8000 Plus: *Changing the subject slightly, you do a full day's work in London, commuting in every day from Paddock Wood in Kent. Where does the time come from?*

Dave: Out of the family's time, and it does cause some pressure. There are some times in the year when we get no discs and other times when we receive twenty five a week. When I get this many, I often have to work forty hours a week on data salvage. I reckon that a disc nowadays will take about an hour, an hour and a half. But that's in addition to all the paperwork.

What's happened since we set up the company is that Sue, my wife, does the books. And because it's a limited company, these have to be done properly. She also does all of the office work - answering the phone and everything. That has taken a tremendous load off. But I still spend anywhere between one and three hours an evening and one out of two weekend evenings on Dave's Disc Doctor Service. It has got easier over the last few months since Dave Axford took half the load.

8000 Plus: *Yes, tell us about your teaming up with Dave Axford.*

Dave: Dave had written to me previously offering his services, but at that time it wasn't feasible due to the distances involved. But eventually it was getting so hectic that he joined in. Dave enjoys the business; he doesn't want to charge. He's got the same attitude as me. We make money for charity.

Please call us

Dave Smith and Dave Axford are always pleased to help, but they are also very busy. If you have just seen your last four months' work seemingly disappear, and you haven't taken a back-up or two, you should phone first Dave Smith on 089238 5974 then Dave Axford on 0428 56438. Remember, they don't charge if they fail to retrieve anything but any money they do make goes straight to charity.

Browned off
A brownout is not quite as disgusting as it sounds. It is actually a slightly less violent version of an electrical black-out. Cities can, and in America and Japan often do, suffer from brownouts wherein parts rather than the whole metropolis are plunged into electric toothbrushless panic.

8000 Plus: *So how is the company doing?*

Dave: The aim was to make £10,000 in a financial year. This first year we didn't start trading until April so I think we'll probably make around £8000 plus. We might even have made more had a few people paid up when they were supposed to. Invoice number 3 is still outstanding and they're not a small outfit.

8000 Plus: *And they know who they are. Passing quickly on, what kind of recovery won't you do?*

Dave: I never salvage programs. Well I've done one BASIC program which was really a listing in compressed form. So I had to work out how the compression worked. But generally I never patch a program.

8000 Plus: *There seems to be quite a sub-culture developing now in terms of data recovery. How do you feel about that and the fact that some people might not really be that expert in what they are doing?*

Dave: I don't know whether it's a sub-culture. I think it's more part of the general intellectual satisfaction that comes from the machine. It's basically extremely interesting and challenging. It's also great fun and very addictive. And I think that's why a lot of these people have started up. They've done a disc for a neighbour or friend and it worked. They think, 'Great. Fantastic.' Because you do get this tremendous sense of elation. Then all of a sudden you get a dozen discs which you don't know the first thing about.

That's where I worry; when you offer a service, I think you have to do it on the basis of professional competence. I'm not technically qualified to write many machine code programs which we use. I have to rely on other people like this guy I

8000 Plus: *To get back to basics now, how many discs do you think you handle a year?*

Dave: Well, between ten and twenty a week is an average but there are some times in a year when there are twenty five a week and others when when you think the phone has been disconnected.

It really is very volatile, and I'm not sure why. There are times in the year, especially after the summer holiday season, when for some reason we get masses of discs in. It's happened two years running and for months it goes mad.

8000 Plus: *Might this be to do with spikes. More electricity being used?*

Dave: My experience is that it's not the spikes but the brownouts which cause the problems. Or it's much more likely that when you come back from holiday you do things wrong or even that someone else has been messing around with your discs.

There was a suggestion in one of the papers that there were exceptionally high sunspots this last year. It's alleged that this caused problems with machines in the States and it did coincide with our busy time.

8000 Plus: *What advice would you have for the person who has just bought their PCW and new box of discs?*

Dave: Well firstly, buying cheap discs is no real saving. In my experience, the good ones are those which have a number inscribed on the right of the disc case above the label. Also if they have black casings *and* criss-crossed markings, they're usually goodquality discs.

The main problems we have are with the plain plastic discs with no markings or inscriptions. Some early discs really were only meant for A: drives and caused a lot of problems the closer you got to the centre; tracks 141, 143, 145, and up were a real problem.

A good tip is that people should Verify discs. Verify just isn't used enough in Diskit. I often find that you Format a disc, assume that it's fine, then Verify it and it fails.

8000 Plus: *What's the daftest disc you've ever seen?*

Dave: There was one that had been eaten by an Alsatian dog. But we still managed to get the information from it.

8000 Plus: *Finally Dave, what would you like to see for the new year?*

Dave: I see the potential of the PCW as being really enormous. A cheap, powerful machine which could revolutionise the way people work at home, especially disabled people. What I really would like to see is people getting together more in order to get more from the machine.

8000 Plus: *So support your local user club. Any final pieces of advice?*

Dave: There's no point in trying to fix a corrupt disc if you don't know how a normal one works. So, it might be a good idea to get hold of something like PCW Toolkit from Moonstone and spend some time really getting to know how a disc works. Above all, if you are thinking of experimenting, never, under any circumstances, use the original disc or even the first back-up. ■

To find out a little more about the disc editors Dave mentions in this article, turn to our disc editing feature - Resurrection - on page 10.

A word to the wise

This sheet of paper will accompany the discs which are successfully dealt with. You might do well to take note of the pointers in section four. Remember never ever turn a B drive disc over as the machine looks at both sides automatically. Also, discs, like the rest of us, get old. Unlike the rest of us, they can be duplicated by backing them up regularly.

DIAGNOSIS, TREATMENT, RESULTS & USER ACTION REPORT (Please keep for future reference)

Customer's Name: Disk Name: Date: / / Disk Type: 180/720

1. Diagnosis:
   1. Mistake in copying:
      a. Source disk overwritten as destination disk
      b. Partial copy only onto new/old disk
      c. 720k disk partially copied onto reverse
      d. Other:
   2. Formatting error:
      a. 180k disk reformatted on rear as 720k
      b. 180k disk reformatted on front as 720k
      c. 720k disk reformatted on rear as 720k
      d. 720k disk reformatted on front as 180k
      e. 720k disk reformatted on rear as 180k
      f. Reformatted by mistake
      g. Other:
   3. Disk sector errors:
      a. In system/directory/data areas
      b. Limited loss
      c. Extensive loss
      d. Physical damage observed on disk
      e. Other:
   4. File error:
      a. Editing file too large for disk
      b. Non-contiguous file extents/page code errors
      c. Other:
   5. Files erased:
   6. Program bug:
   7. Disk of inadequate quality for drive
   8. Other error:

2. Treatment:
   1. Old disk repaired/left as it was
   2. New copy of disk made
   3. Salvage undertaken
   4. Files unerased/Limbo copies of files recovered
   5. Other:

3. Result:
   1. Full recovery
   2. Almost complete recovery
   3. Limited recovery only
   4. Files recovered but names lost
   5. Damaged files patched/repaired
   6. Remnants of data collated into files
   7. Some/all data/files lost
   8. Other:

4. User Action Required:
   1. Have hardware checked out immediately
   2. Use higher quality disks
   3. Use write-protect tabs when making backup copy
   4. Make another backup copy NOW
   5. Check integrity of power supply
   6. Recover and rename important limbos
   7. DO NOT turn 720k format disks over
   8. DO NOT try to mix 180k & 720k formats
   9. Make room for editing by erasing any unwanted files or copying to new disk
   10. Print/examine recovered FILE.001 etc. Edit, rename or erase as appropriate
   11. As 10 for residues in ODDS.001 etc
   12. Create new files and import ODDS.001 etc with INSERT TEXT option. Edit, rename or erase as appropriate
   13. Keep files smaller
   14. Upgrade software to latest version
   15. Run specialist software on recovered files:
   16: Institute proper backing-up regime
   17: Recycle disks more frequently
   18: Other:

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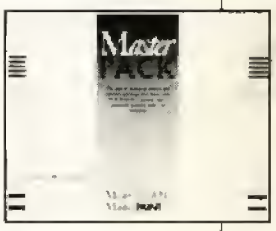

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PUBLIC SPEAKING

Want to make your PCW talk? Steve Patient listens to an upgrade of a speech synthesiser that gets more and more chatty by the minute

Gone is the naked board: the new speech synthesiser comes in a compact steel box with amplifier and volume control

SPEECH SYNTHESISER

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Speech synthesis on the PCW? Unlike many other home micros, the PCW has a very limited sound chip, limited to a single beeping tone. While this could conceivably be of use to a speaker of Silbo – the whistled language used in some remote areas of Brazil – it isn't much use otherwise.

So, for those applications that need to speak to the user, an add-on sound chip is called, or rather beeped, for. This updated speech synthesiser module from SM will allow you to write Basic programs that can speak to the user – just about comprehensibly. You can put warning messages into your database – 'Save your data', maybe – or write a typing tutor for users with impaired vision which gives the names of each key as it is pressed.

Whizzers and chips

Speech is a very complex mixture of sounds, with pitch and volume altering markedly in even the shortest word. To duplicate even some of the more simple effects of speech using a traditional sound chip is extremely difficult. So it isn't surprising that chip manufacturers have come up with dedicated speech chips.

One such chip is the **SP0256AL2** from General Instruments and it is this that forms the heart of S M Engineering's Speech Synthesiser.

The present Speech Synthesiser module is a development of an earlier, much less attractive, naked board that could be connected to SM Engineering's Parallel I/O Interface. In fact this interface was the only one with which it would work. The company had so many enquiries for a stand-alone module that they redesigned and repackaged it for a wider market.

The Speech Synthesiser now comes in a compact steel box with an amplifier, volume control and a standard Centronics parallel printer port connector on the back. This addition means that it will run from any Centronics interface on any computer. Better still, most computers, including the PCW, have a BASIC that will treat it exactly as if it were a printer. This means that programming it is now as simple as sending LPRINT commands.

The Speech Synthesiser still isn't completely self contained; it requires a power supply. However this is supplied by SM Engineering in with the price. What isn't supplied is a parallel printer cable; if you don't have one of these it will cost you anywhere from £5 to £10 depending on where you buy it.

Only one thing remains to be done: connecting it to the PCW. If you have a 9512, then there isn't any problem since you have a built-in Centronics interface – 8256 and 8512 owners will need a Centronics/RS232 interface before they can use the Speech Synthesiser. The interface with the IDC connector to which the built-in dot matrix printer connects can't be used instead.

The way the Speech Synthesiser works is extremely simple to understand. Each of the 64 allophones that it can generate are produced by sending a number between 0 and 63 to the printer port. If you're using Basic then it really is as simple as that. At a more technical level, you have to put the allophone number to the printer port address and then send a strobe signal. This just tells the speech module that the data on the lines is valid. The speech module then sets the busy line to stop the PCW sending anything else while it processes the allophone code. When it finishes, it clears the busy line and the PCW can send the next data byte. Printers work in exactly the same way.

If all this sounds complicated, don't worry – it isn't. Everything is clearly explained in the accompanying (slim) documentation with examples in Basic. The documentation also runs through the theory of speech production on computers and includes a complete list of the allophones the unit supports.

Received pronunciation

Alongside the list of allophones are example words in which the sound produced occurs. This takes some of the guesswork out of producing suitable lists of data for the words and sentences you want to produce. Even with this help it will take some experimentation to produce lists of allophones that reproduce acceptable speech patterns.

Using the Speech Synthesiser is not just simple but great fun as well. This explains its popularity in teaching environments; it's much easier to learn new techniques when the learning is fun. The Speech Synthesiser has its serious side as well. It can be used to allow communication between computers and the blind; it can be used to provide audible and meaningful warnings in industrial or security applications and can be integrated into games.

Overall the new Speech Synthesiser is a great improvement on its predecessor and an interesting addition to the PCW. The price, and the fact that it can be used with most machines, means that it is more accessible than most computer hardware peripherals. ■

SPEECH SYNTHESISER

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How much is enough?

The fundamental sounds of speech – sounds like 'ah', or 'ch', or 'eh' – are called phonemes, but a phoneme can come in more than one form. Different forms of the same phoneme are known as allophones. There are hundreds of different ones but using a selected few you can make comprehensible speech. Some languages use phonemes which English doesn't. These can be hard to learn to hear and pronounce correctly after childhood.

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"PCW: Streamlined BASIC"

by Geoffrey Childs

'Streamlined BASIC' is a new concept in PCW publications from PCW-World. The package includes a book and a disc so that all the examples in the book can easily be used on your PCW. The book and the programs have been written by Geoffrey Childs, who is probably best known to PCW users as the main programmer of Lightning Basic. He has also been a contributor to several computer magazines including 8000 PLUS. The book was written in response to two questions that frequently appear in the correspondence columns of PCW magazines. It will answer many of your questions too!

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BEHIND THE SCREENS

Ever wanted to know exactly how CP/M uses your PCW's memory chips? In the first of a new series, Richard Cox makes a fantastic voyage and reveals all

One of the appealing characteristics of the PCW range of computers is the large amount of memory which they possess. Amstrad display this fact for our attention in the very names of the machines – the PCW8256 has 256k of memory, whereas the 8512 and 9512 have 512k each. If you know what 'k' means then ignore the next paragraph.

If you are under the impression that 'k' has something to do with 'kilo' then you're right; but the connection is a bit of a cheat because 1k is 1,024 bytes, whereas one kilobyte, to be precise, would be 1,000 bytes. However, kilobytes is convenient, so kilobytes it is, and we get an extra 24 bytes free. 256k is 262,144 bytes of memory, 512k is 524,288. (1 byte is the basic unit of memory for this range of computers, and corresponds roughly to 1 character of text, or 1 number between 0 and 255.)

All this means that the PCWs have a great deal of memory power at their disposal for both the manipulation of text and for numeric calculation. This series of articles is about the way memory is used by the PCWs: how some of it is organized by CP/M, how a large part is configured to make drive M, and how the screen memory can be used to create graphics effects.

Whichever PCW you possess, it will contain a certain number of silicon RAM chips (RAM means Random Access Memory or, more meaningfully, Read & Alter Memory). Each of these chips is capable of storing 16k of information.

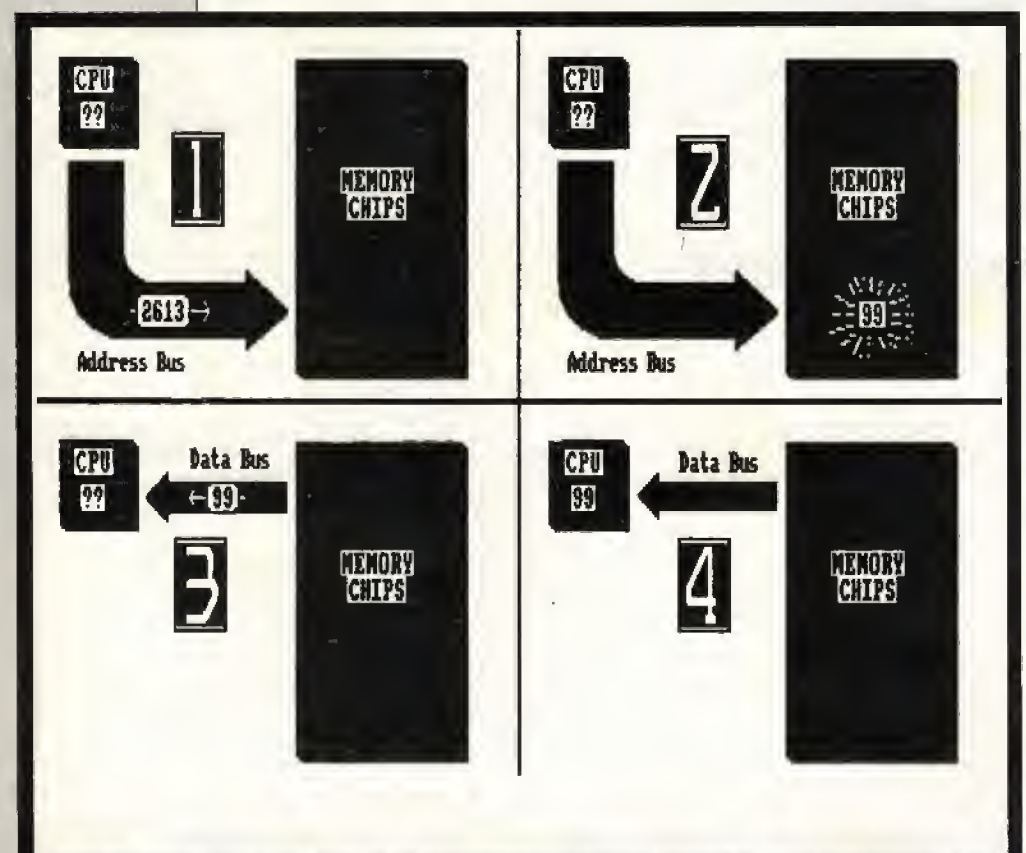
Memory blocks

These memory chips are vital to the function of the computer. The Z80 CPU – Central Processing Unit, the brain of the PCW – would be able to accomplish very little without them, since it expects to find its program instructions in them. They also act as a data store for all but the smallest of operations.

Since the data scurrying about inside the computer actually consists of electric currents, every byte in the store of memory used by the CPU will need from time to time to be connected to it electrically; not all at the same time though, otherwise, writing a value of say 33 to one byte might set all the bytes in memory to 33, with most undesirable consequences.

Evidently, there is a need to isolate individual bytes as they are required. This is done by a technique known as addressing, which simply means that each byte is called by a number, its address. So, every byte has two numbers associated with it: the value it contains, which may change now and then, and its address, which remains the same.

When the CPU writes to, or reads from, the memory, the address of the correct byte is needed. See in diagram one how a byte is read: the address is sent to the memory chips along 16 tiny wires (the Address Bus), coded as a set of electrical impulses; this activates the correct byte of memory, which then sends its current value to the CPU along another set of 8 wires (the Data Bus). When writing to a memory byte the value is sent along the data bus in the opposite direction.



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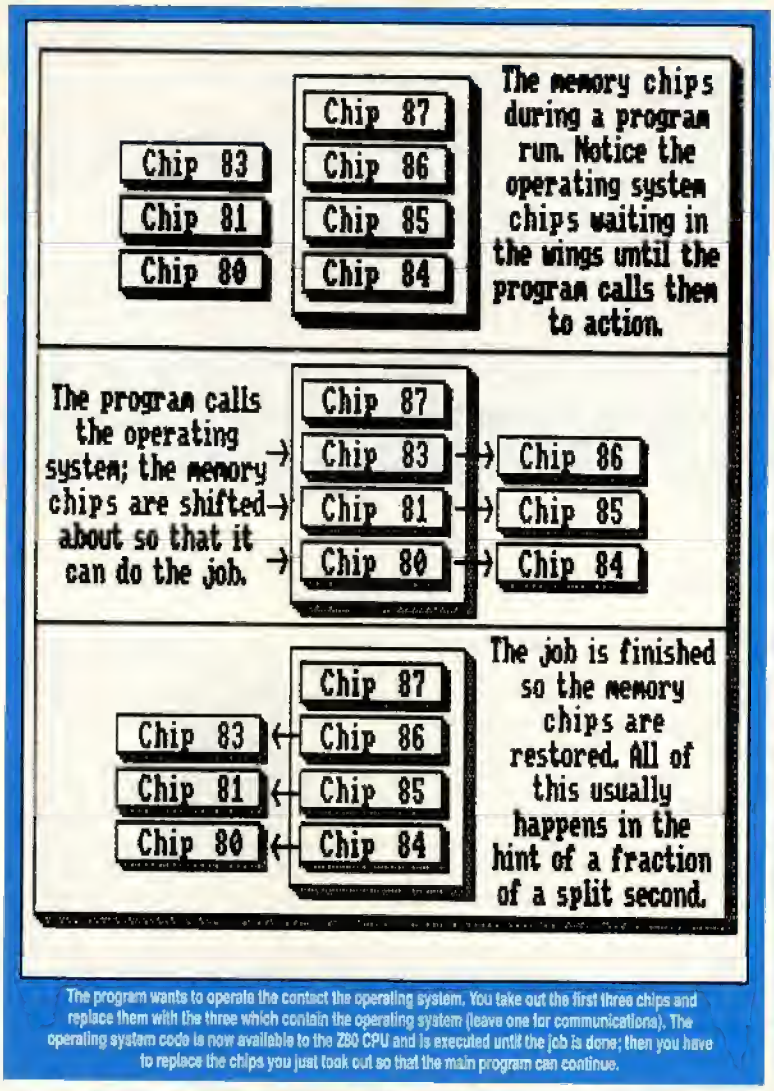
What's on the bus?

How is the correct memory byte 'activated' though? Remember the address bus has 16 wires. Inside a digital computer (e.g. yours) such wires usually carry one of two voltages, high and low.

With 16 wires there are 65,536 possible combinations of high & low voltages, and, since each combination refers to a different byte of memory, the CPU can activate up to 65,536 bytes of memory, i.e. 64k, or 4 of the 16k RAM chips. By convention, we refer to values of 0 and 1 instead of low & high voltages,



The program wants to operate the contact the operating system. You take out the first three chips and replace them with the three which contain the operating system (leave one for communications). The operating system code is now available to the Z80 CPU and is executed until the job is done; then you have to replace the chips you just took out so that the main program can continue.

so instead of 16 wires, think of 16 digits (Binary digITs – hence BITs).

So, addresses exist internally as 16 bit binary numbers – in this form they are easy to decode electronically so that the activating signal is sent to the correct byte.

The operating system is the program which controls the basic functions of the PCW. (The operating system will be mentioned often now, so we will abbreviate it to OS.) A large part of it consists of 1,001 basic routines needed by programs to communicate with the disc drives and console.

When you run a program by typing its name at the A> or B> prompt you are issuing a command to the OS, i.e. 'Please run this program'. The OS then loads the program into memory from disc. Control is now transferred to the program and the OS retreats until the program wants to use one of its routines. When that routine has been successfully accessed, control is again returned to the program and the OS retreats once more into the background.

When the program comes to an end, it tells the OS, which then displays the A> or B> prompt and waits for you to say what to do next.

Since the Z-80 CPU can only activate the first 64k bytes of memory, it is not helpful to have lots of it used up by the OS: some programs need lots of memory if they are to operate effectively.

This problem is solved by placing only a small amount (about 2Æk) of the OS in the first 64k bytes and hiding the rest of it away in some of the other memory chips – there are plenty of them.

But how can this work with the majority of the OS inaccessible? Imagine this: you have 7 memory chips in your hand. On the circuit board of the computer are four sockets, and you fit a chip in each one. These are the 64k bytes of memory we have been talking about, and they contain a program which is running. You have 3 chips left in your hand. Diagram two gives a basic illustration of this.

Reaching into the invisible

Now the program wants to contact the OS. You take out the first three chips and replace them with the three which contain the OS (leave one for communications). The OS code is now available to the Z-80 CPU and is executed until the job is done; then you have to replace the chips you just took out so that the main program can continue.

This sounds cumbersome, and would only work if memory chips could retain their values when unplugged, which they can't. The PCW, however, has a way of juggling the chips around without unplugging them physically. To do this, four special output ports are used.

An output port is a gateway between the CPU and the outside world. The PCW has 256 of them, and they are numbered from 0 to 0FFH (hexadecimal for 255).

For the memory chip switching, four output ports are used, corresponding to our four imaginary sockets on the circuit board. To 'plug in' a different chip into a particular socket, you simply choose the correct port and send to it the number of the chip you wish to plug in. Each port has a buffer which 'remembers' the chip number most recently sent to it and this information becomes important when the CPU accesses a memory byte.

This circuit works out the answer to two questions: (1) which quarter of the 64k does the required address belong in (e.g. address 4099 is in the second quarter)? and (2) which memory chip is currently 'switched in' to that quarter (the number of the chip will be in the corresponding output port buffer)? Communication is established between the correct chip and the CPU and the operation is carried out.

Let's go back now to the moment when the program calls the OS. Control is first transferred to the part of the OS which is accessible – it is in the very top of the 64k bytes. The OS chips are switched in by sending their numbers to the output ports. The desired OS function is performed and then the original memory chips are 'replaced' so that the program can continue.

Of course, the OS memory must be switched into place every time it is used by the program. However, the switching time penalty involved is quite small, and the average program uses routines within itself far, far more often than it uses the OS.

Drive M: and the screen

There is a great deal of memory still unaccounted for; some is used to store the screen display and character set and the rest is used for drive M. Next month we will be describing layouts, looking at which output ports are used for memory switching and how programmers can use them to communicate directly with drive M. ■

DIY Note

There's virtually nothing you can do to prevent a memory fault developing. More often than not, unexpected electricity surges and shoddy workmanship at grass roots level are to blame. The good news is that it is possible to rebuild your PCW's memory yourself; memory chips cost no more than a couple of quid each and if you've a steady hand and a good eye for detail, it's not too difficult to clip the new chips into place on the main circuit board. It's a good job too. Memory repairs undertaken by maintenance houses tend to be very expensive.

How big?

A megabyte (1MB) is 1024 kilobytes (1024K); a kilobyte (1k) is 1024 bytes and a byte represents roughly one character. Memory expansion packs or boards currently in existence - like Isenstein's and the one from SCA (see News Plus) - consist of 512K. This is the equvalent of having another 8512 added to your machine. In real terms (ie,once you have software running), you will be left with 880K on the 512K machines to play around with and 624K on the 8256.

THE IMAGE MAKERS

Which DTP package has what you want? Sharon Bradley, Tim Smith and a few 8000 Plus readers take a tour of the options

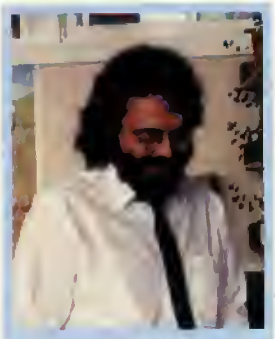
Who needs WIMPs?

Desktop publishing packages often rely quite heavily on what is known as a WIMP environment. WIMP stands for Windows, Icons, Mouse and Pointers. Windows are areas on the screen in which you can work – either for creating text or graphics. It's usually possible to have a number of windows open on the screen at the same time – like The Desktop Publisher.

Icons, on the other hand, are small pictures which represent a particular facility or item. When these icons are pointed at, using a mouse or light pen, for example, the facility is 'activated'. Icon-driven systems are faster because they make recognition of an item instant. WIMPs heighten the friendliness of a program; just point to what you want and away you go.

THE DESKTOP PUBLISHER

£29.95 ● Database Software ● 0625 878888



Chris Jenkins

At just under £30, The Desktop Publisher is one of the most inexpensive DTP programs around. Good news for your pocket, but what about your pages? This program is probably better at helping you produce simple one-page handouts than longer multi-page documents; it's not particularly good at carrying text smoothly from one page to another.

To get the most out of the program's page editor – the principal screen of the program – you need to be rather organised as it's here that you decide how your page is to be divided between graphics and text.

You place a number of windows onto the naked page – graphics windows or text windows depending on the page's eventual contents. Each window is saved as a file in which are stored both its dimensions and contents, whether words or an image. The position that these windows will eventually occupy on the page isn't, at this stage, fixed. A page preview option later on will allow you to move them around before finally printing out the finished page. The windows are filled using the program's graphics and text editors.

Chris Jenkins, from Garstang in Lancashire, has been using The Desktop Publisher, for almost two years. He reckons that the page editor is probably the least successful part of the whole program even though its role is an important one. 'I feel that a template option which would repeatedly allow you to create pages on the same design would have been a very useful facility. The good news is that existing window files can be repeatedly added to a page to produce a number of equally-sized graphics or text boxes.'

Says Chris: 'I prefer to type text directly into the text editor than import Ascii files. Importing is easy, but takes a lot of time and offers no advantages unless the text you're importing was written at a much earlier stage and not specifically for the page you are now creating.'

A text window must stick to the same-sized text throughout. All the usual style changes of bold, italic, subscript, superscript and so on are, however, permitted. The Desktop Publisher generally prides itself on its WYSIWYG (What You See Is What You Get) facility, but, points out Chris, 'sometimes you can change a couple of lines of text that you've already written into italics and the program will appear not to have followed your instructions.'

Having decided on the dimensions of your text window you must, as far as possible, write to fill it. The graphics windows work in exactly the same way. Once you've decided on the size of the window at the page editor, you now have to find an image to put in it. Images from the program's supply of clip-art can be introduced into these boxes; so can illustrations from digitisers and scanners. 'Although,' says Chris, 'I find the graphics editor the most enjoyable of the program, there are still a number of things I'm not happy with. You can't, for example, move items around on their axes or alter their sizes particularly easily. When pasting, you can't see exactly what you're pasting – which is essential if you want to get the size right.'

The program also treats headline fonts as graphics with each letter occupying its own box. Make it more than 8 pixels high, however, and the characters will display unsightly stepped diagonal edges. Getting the headline to fit into the space that is available for it is largely a question of trial and error requiring several hair-pulling attempts. It's not easy.

The Desktop Publisher is very cheap; this economy shows in its lack of proportional spacing and its inability to easily flow text across a number of pages. Concludes Chris: 'The program always holds its own in the uses to which I put it – namely preparing political community newsletters and cheap advertising copy. You'd be better off thinking of it as a game rather than your opportunity to become Bob Maxwell!' The Desktop Publisher works with AMX, Kempston and Electric Studio mice. ■

'The program always holds its own in the uses to which I put it,' says Chris, 'namely, preparing political community newsletters and cheap ad copy.'

THE DESKTOP PUBLISHER

PLUSES	MINUSES
▲ Very cheap	▼ Headlines very difficult to manage
▲ Page design must be organised at start	▼ Documentation could be better
▲ Good text editor	▼ No proportional spacing or 15 pitch
▲ 15 versatile fonts supplied with program	

PERFORMANCE	4/5	RANGE OF FEATURES	4/5
EASE OF USE	3/5	DOCUMENTATION	2/5

8000 PLUS VALUE VERDICT 13/20

Making the decision to go ahead and expand your PCW's horizons a little is usually a fairly sound and commendable step. But temporarily deserting the warm security of the by now familiar haven of word processing to venture into the uncharted realms beyond can be a bewildering affair. This is particularly true of the world of desktop publishing where so many different ways of making improvements to computer-produced output are on offer. Promises of skillfully engineered pages on which words and images are perfectly blended can also at times intimidate rather than encourage the novice dabbler. Confronted with the evidence, he or she mistakenly arrives at the conclusion that output as smart as that can only be the work of real professionals with big expensive machines. It doesn't have to be like that.

We're living in a world where the presentation of information is as important as the information itself. The written word is still one of the most popular and effective means of communicating information between people.

Desktop publishing packages simply provide you with the means of making that output more attractive by increasing its visual impact. And this comes from introducing onto the page a combination of illustrative back-up, imaginative fonts and structured text. The DTP approach ensures that the message you're trying to put across gets the attention it deserves.

As you will see throughout this article, there are a number of desktop publishing programs available for the PCW. As will also become clear, they don't all do the same thing. Which package you choose is likely to depend on your application. Some programs put the emphasis on graphics when making up a page; others consider text-handling more important. All these packages work with or without a mouse, although operating such potentially versatile programs from the keyboard alone holds little appeal - like dancing Swan Lake with a pair of wellington boots on; you just don't develop a 'feel' for the exercise. This will be something else to consider when making your final choice. ■

WYSI-What?

Users of desktop publishing programs often haven't got time to wait for a printout of every page that they create so that they can check that everything is as it should be. Most desktop publishing programs have, therefore, what is known as WYSIWYG – What You See Is What You Get. Put simply, this means that the screen at which you're working will show you an accurate representation of the effects you are creating – with typefaces, images and so on – so that you don't have to wait until printout to see the results.

NEWSDESK INTERNATIONAL

£25 (£50 with Light Pen) ● The Electric Studio ● 0462 420222

Christopher Derricot

Newsdesk International has been with the PCW from very early on. Not to be outdone by its growing number of rivals, it has managed to stand its ground. 8000 Plus reader and desktop publishing baron Christopher Derricott bought his PCW 8256 together with Newsdesk International in order to produce advertising handouts and price lists for his wine business.

Newsdesk International works on a pull-down menu system. Choices are made using the cursor keys and hitting the space bar to go into action. If you use a mouse, getting around the system becomes slightly faster. It really depends on your feel for computer rodents. The mouse comes into its own with the freehand drawing facilities. It is far easier to create flowing curves with this than it is with the cursor keys which are only really any good for drawing along the vertical and horizontal.

Christopher's initial problems with Newsdesk International concerned a manual which ' ... arrived with pages that were firstly in the wrong order and secondly, unnumbered.' More recent versions of the manual have dealt with this glaring shortcoming which is hardly conducive to successful mastery of the program, but they still lack an index. 'The other major gripe,' says Christopher, 'was that importing Ascii files from word processors was underdocumented.' This, however, would still appear to be the case.

Art editor

Where Newsdesk International does look strong, however, is in its graphics capabilities and the amount of supporting software available for it in the form of snip art and additional fonts.

It offers a freehand drawing facility with pen, brush or spray can all of which can be used either with a mouse or from the keyboard. Each of these can be changed to give different thicknesses of line. Drawings done without the help of the Electric Studio mouse (which, incidentally, the company are no longer manufacturing) can appear rather stilted and unnatural with a distinct lack of curves. If, however, you require straightforward no-nonsense printouts, then Newsdesk International is more than competitively priced.

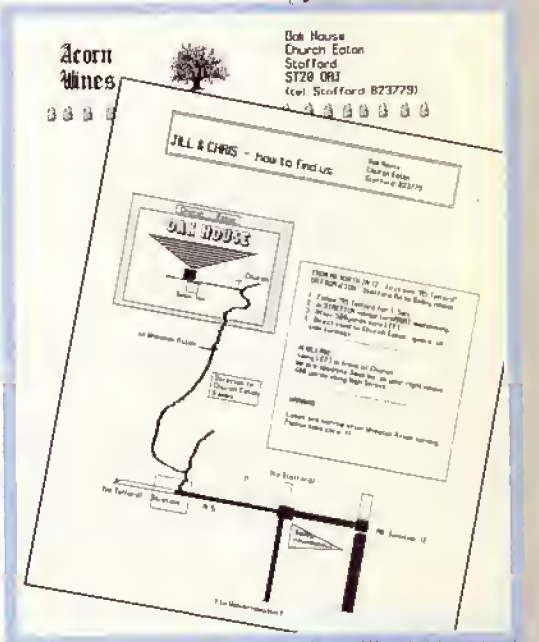
The available snip art is plentiful but does tend to be in the nature of cartoons. You are given the ability to resize any graphic which is loaded into the system by grabbing the top left corner and either pushing or pulling. The Examine area allows you to check out any piece of snip art before committing it to your page.

Fonts scoring

There are also quite a few additional fonts available. If you would prefer to design your own serifs, san serifs and weirdo space cadet typefaces, then this option is also available to you.

Text handling itself is carried out directly from the keyboard onto the screen or from the keyboard into the 'mini-editor' which is similar in spirit to Micro Design's. You can also import files, although as Christopher has pointed out, this is not the easiest job in the world.

Text boxes on screen can be resized and ordered around your quite expansive working area. The only real proviso here is that flowing text into the columns needs a deal of practice before it is mastered. According to Christopher, "You set windows on the page preview and it works well. However, there is no easy way to divide the page into two or three equal columns; you have to turn on the co-ordinate indicator and do it manually. It's very easy to end up with columns of different widths."



Graphics and text courtesy of Christopher Derricott and Newsdesk International

Conclusion

For the price, without a mouse, Newsdesk International is an excellent first bridge into the world of desktop publishing. It is slow compared to Stop Press and Micro Design II but if you're after good quality printouts and a great deal of flexibility, then it might be worth a look. ■

NEWSDESK INTERNATIONAL

PLUSES	MINUSES
▲ Good graphics handling	▼ Difficult to undo mistakes
▲ Plenty of additional fonts and snip art	▼ Skimpy manual with no index
▲ Built-in text mini-editor	▼ Slow

PERFORMANCE	3/5	RANGE OF FEATURES	3/5
EASE OF USE	4/5	DOCUMENTATION	2/5

8000 PLUS VALUE VERDICT 12/20

Good point

The size of a type face is measured in points. The point size of this margin note, for example, is 7. The height of the type face is measured from the top of what are called the 'ascenders' – 'l's, 'b's, 'h's and 'd's, for example – to the bottom of the 'descenders' – p's, 'q's, 'y's and 'g's.

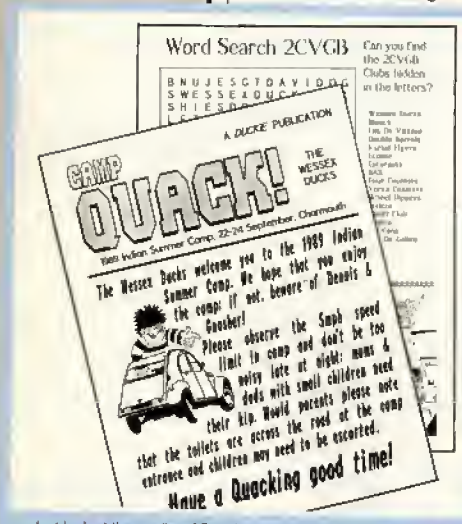
Leading (pronounced 'ledding') is another aspect of typesize. This is the distance, measured in points, between the bottom of one line of text to the bottom of the next line. In this margin note, the leading is 8 points; in the main body copy, it is 10. It's usually a good idea to insert a little extra space between the lines so that the ascenders of one line don't fight for space with the descenders of the line above.

MICRO DESIGN II

£59.95 (£99.95 with Kempston mouse) ● Creative Technology ● 0889 567160

The arrival of Micro Design II saw desktop publishing on the PCW move up three gears and fit a turbo charger. Its creators call it an integrated page processor which basically means that it treats words and graphics as equals.

Unlike some packages which are supposedly 'portable', this is configured for the PCW. The OPTIONS screen will allow you to tailor it even more closely to your needs by asking you things like which mouse or word processor (in the case of imported files) you will be using. The program is compatible with both Kempston and AMX mice which means that people with other systems don't have to fork out extra money. It accepts LocoScript files as standard but will also deal with Protext files if told to. The comprehensive manual, complete with index and appendices, will take you through all this quickly and painlessly.


Word Search 2CVGB

Can you find the 2CVGB Clubs hidden in the letters?

A DUCKE PUBLICATION

CAMP QUACK!

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Have a Quacking good time!

Just look at the quality of David Solomon's (see overleaf) printout!

Moving, doing it

The command structure comprises a mixture of menus and icons. The first screen you will encounter is the Layout screen to which you will return in order to see how the page as a whole is shaping up. Movement is achieved with mouse or by keyboard input. Again the mouse is a matter of preference although it does speed up some processes such as drawing and undoing. In fact one of Micro Design's strongest features is its ability to undo mistakes at the click of a button. This allows for much experimentation.

The other outstanding feature is the text editor. You can either type your words directly into it, adding bolds, italics and other LocoScriptian frills, or you can tidy up imported text. There really is no other package to compete.

Page layout follows fairly conventional lines, with text and graphics boxes being moved around until they fit (of course, a bit of advanced planning never hurt anybody.) But once you have got your pages looking just right, you will need to print them out. Again Micro Design kicks in the nitro and speeds away from the competition. Its print capabilities are quite superb. The standard printer is made to work like never before. However there is more, if you're looking for some real class: the system supports 9 and 24 pin printers and even laser printers.

Creative Technology offer excellent system support for their package and are constantly improving it. For printer support alone it is streaks ahead of the pack. So, for those PCW users who want to produce top quality output with the minimum of fuss Micro Design 2 will take some beating. ■

MICRO DESIGN II

PLUSES	MINUSES
▲ Comprehensive manual	▼ Rather small design screen
▲ Supports 24 pin and laser printers	
▲ Excellent text editor	

PERFORMANCE	5/5	RANGE OF FEATURES	5/5
EASE OF USE	5/5	DOCUMENTATION	5/5

8000 PLUS VALUE VERDICT 20/20

Mice work

The AMX mouse is a three-button rodent which comes complete with interface and through port. It costs £47 and can be purchased from Database Software on 0625 878888. The Kempston Mouse can only be bought with other Kempston software (0234 841224). The Electric Studio mouse is no longer in production.

STOP PRESS

£49.95 (£79.95 with AMX mouse) ● Database Software ● 0625 878888

Mark Buckley-Sharp has been using Stop Press since the spring of 1988. He uses it to edit and produce the Harrow Camera Club and Arts Centre Magazine.

One of the more impressive aspects of Stop Press is its 158-page ringbound manual, complete with detailed index. Not only will it help the new user get to grips with the system, it also includes an Advanced User Guide. This gives details of such goodies as perspective effects and kerning. 'By the afternoon of the day following purchase I found I could use nearly every feature of Stop Press easily," comments Mark. 'After that, the transition from novice to expert takes place very quickly; there aren't any blocks to rapid use.'

One of the first criticisms generally levelled at Stop Press is its lack of an in-built text editor. Because it is such a highly graphics-oriented package, it treats even individual text lines as graphic elements. In this, it differs from all the other packages we're looking at. It will accept imported files in Ascii format but text manipulation is cumbersome and difficult. The textual print quality consequently leaves a lot to be desired.

"You can make some improvements by using a finer font such as Slender for body text," suggests Mark. 'There are a number of other tricks to be used but there always seems to be a rippling variation in the character heights on different lines." Basically, any none graphic material is going to suffer at the hands of Stop Press and this will be particularly noticeable on printout.

Mark Buckley-Sharp

Stop Press's drawing facilities are superb. The normal spray cans, pens, and brushes are available. Importing and then customising pictures could not be easier. As each page is made up as you go along, you can move boxes around, fitting, sizing and re-sizing to your heart's content.

It is definitely more of a tool for the person who wishes to produce interesting designs such as invitations or illustrative pages rather than newsletters. An ideal use might be for sporting or theatrical programs or price lists where text is kept to a minimum. ■

HARROW CAMERA CLUB
HARROW ARTS CENTRE

NEWSLETTER

EDITORIAL

NEWS & DIARY

FROM THE AGM

Stop Press is very different from any other DTP package: it has no in-built text editor and is a highly graphics-oriented program

STOP PRESS

PLUSES	MINUSES
▲ Excellent manual	▼ No built-in text editor
▲ Good graphics facilities	▼ No access to CP/M
▲ Quick to learn	▼ No file housekeeping (eg directory) facilities

PERFORMANCE	4/5	RANGE OF FEATURES	4/5
EASE OF USE	4/5	DOCUMENTATION	2/5

8000 PLUS VALUE VERDICT 17/20

CODA SOFTWARE HEAD COACH v3

American Football - where the war on the field is often decided by the decisions of a lonely figure pacing the sidelines. He's the Head Coach, and while the mayhem on the field looks unplanned, he knows that his carefully crafted game plan is beginning to work, and the decision to use the extra defensive lineman on first down is placing devastating pressure on the opposition's star quarterback. It's your first year as a Head Coach in the NFL, and in the short time before the season gets under way, you're going to have to get to know your 45 players well enough to avoid embarrassment in your first regular season match. The likes of the Chicago Bears, the Washington Redskins, the 49ers and the L.A. Raiders lie between you and Superbowl glory. Your task will be helped in several ways. Firstly, a wealth of statistics are available to you, logging the match performance of each player. Rigorous training sessions and time trials can help you to sift out players who just don't have what it takes any more, and the college draft will give you the chance to find that star player you so desperately need.

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CADMASTER LIGHTPEN

£29.95 ● Trojan ● 0792 205491

One alternative to using a mouse for DTP work is to plug the Cadmaster Light Pen onto the expansion port at the back of your PCW. This is a device which looks like a pen and almost works like one, except that you use it by applying it to the PCW screen instead of a horizontal piece of paper. It sounds fairly straightforward in theory; what about in practice?

The Cadmaster Light Pen is a product of extremes; it's brilliant when it's good and flops abysmally when it's bad. Obtaining any degree of accuracy with the pen, for example, is very difficult. Because the keyboard is not utilised at all, everything must be done by selecting the appropriate option from the on-screen menu (you pick up the pen, place it on the screen and point to your choice). Once you've selected the cube, say, that you want to draw, you again use the pen to determine the cube's screen position and dimensions. The method is a slow and laborious one and virtually impracticable when it comes to producing your own freehand drawings.

Any hope of tight accuracy nosedives when you see the cursor; it completely obliterates any fine lines that are being drawn behind it. Having said that, Cadmaster's zoom facility is exceptionally good, allowing you to make very fine pixel alterations to your work by providing magnification options of 4, 6, 8 or 12 times the original size.

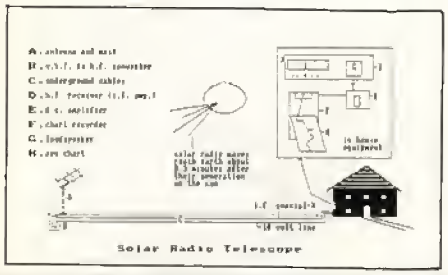
Ron Ham from Storrington in Sussex writes for two radio magazines – Practical Wireless and Short Wave Magazine – on a regular basis. Although his articles usually contain photographs allied to the topic under discussion, a diagram is often required for further clarification. 'I must confess,' admits Ron, 'that the ideas come a lot more easily to me than the ability to interpret them into successful illustrations. This problem was mostly solved, however, when the Cadmaster Light Pen became a permanent addition to my desk top.'

Now an experienced user of the Light Pen, Ron warns that it does take time to learn exactly how this sometimes quirky program operates. 'Learning to hold the pen at the correct point on the screen and setting the brightness control to match the sensitivity of the pen's response becomes something of a knack,' he says. 'Yes, it can take several hours, including thinking time, to complete a detailed drawing; once this is done, however, and the work stored on disc, you can recall and print it out in one of three different sizes as often as you like. The same drawing can be loaded, modified for another use and saved, along with the original, under a different file-name.'

One of Cadmaster Light Pen's major strengths is its text facility. Although there is only one type face, each letter can be sized up or down to the tune of 64 permutations, each one different to the last. This is done by placing the letter in question on an eight by eight grid that has both an X and Y axis. Both upper and lower case letters can gradually be increased in size from the X1,Y1 coordinate (the smallest size) to the biggest X8,Y8 coordinate.

'Although I mainly use the text for labelling drawings,' says Ron, 'it is also convenient for making quick temporary signs for exhibitions, parties and outdoor functions. During the past year I have made many such notices which were printed out on A4 paper, used and then thrown away after the event. And of course, you can personalise the program's supplied typeface by using the Zoom facility. The colour of the print can also easily be altered by changing the printer ribbon. I often keep a red one handy for this very purpose.' ■

The Magazine
8000 PLUS
on sale here



This text notice was produced using the axes combination of X5,Y3. Each file can be printed out in up to three different sizes.

CADMASTER LIGHTPEN

PLUSES	MINUSES
▲ Excellent choice of typeface sizes	▼ Accurate positioning difficult
▲ Very good zoom facility	▼ Freehend drawing virtually impossible
▲ Inexpensive	▼ Not very friendly

PERFORMANCE	3/5	RANGE OF FEATURES	3/5
EASE OF USE	2/5	DOCUMENTATION	2/5

8000 PLUS VALUE VERDICT 10/20

Way to go

Designer Stubble is a secondary piece of DTP software which coaxes the newcomer to the delights of desktop publishing in the ways of successful production and publication. John Evans, the man behind Designer Stubble, is aiming to show that professional-looking results can easily be obtained using inexpensive DTP software on the Amstrad PCW. If you want to know what DTP on the PCW can do for you, speak to John Evans on 0225 315131.

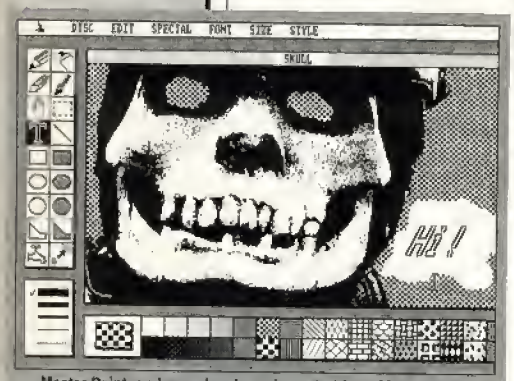
MASTER PACK

£49 for Master Scan ● £13 for Master Paint ● £55 for Master Pack ● Database Software ● 0625 878888

This little package includes one of the cheapest digitisers for any computer in the form of Master Scan. It is accompanied by Master Paint, a strong graphics package.

Master Scan comes with an interface which attaches to the expansion port on the back of 8000 series PCWs. Coming out of this is a lead which ends in a small block of plastic. The reason you won't be able to use Master Scan on the 9512 is because this block contains the actual scanning device and will only fit over the printhead on 8000 series printers.

The process of digitisation is fairly simple. Fit the block to the printer head. Remove the printer ribbon. Find your picture and away you go. The printhead moves over each of the 256 lines which make up a screen, capturing each of the dots on the page and transferring them, dot for dot, onto the screen of your PCW. The image can then be saved as a file. A Master Scan file can then be loaded into Micro Design, Fleet Street Editor, Newsdesk, Stop Press and, of course, Master Paint.



Master Paint: an image has been imported from Master Scan and then fine-tuned by Master Paint.

The software which accompanies the scanner, and without which it is useless – there have been stories of people being conned into buying secondhand Master Scan but not the software – allows you to control contrast and the width of picture you wish to scan. You do this by setting the maximum width across the carriage that the printhead can travel. The largest image it is possible to scan is about 8 by 6 1/2 inches. The scanning process is not the most rapid experience your PCW will ever have. The size of photograph we have just mentioned will take about 12 minutes to complete.

Master Scan does have problems with shiny surfaces. So, if you're thinking about taking pictures from a glossy magazine, or even a photograph of yourself, you should photocopy first. The quality of digitised image you will be able to achieve is dependent upon the quality of picture you use.

In the early days, Database Software touted Master Scan as a possible fax. Combined with a modem, the theory went, you should be able to send scanned images over telephone lines. This would be fine if you just wanted to send graphics. But Master Scan does treat text in exactly the same form as it does graphics. Text the size of that which you're reading at the moment would simply be too blurred.

FLEET STREET EDITOR PLUS

£69.95 ● Mirrorsoft ● 01 928 1454

David Solomon

Fleet Street Editor is one of those packages that ought to be good. Perhaps the most adventurous and comprehensive of the earlier DTP packages around for the PCW (the accompanying manual is a 193-page information-packed tome), it isn't so much a page make-up program as a publishing package. This arrangement is better for users like David Solomon from Southampton who need to produce a lot of pages with a minimum amount of effort.

Explains David, 'I was among the first 500 users of Fleet Street Editor Plus and have used it every month since May '87 to produce a family 'newspaper' and since January '88 to put together a monthly newsletter for a car club.'

The package comprises three sections: a text editor, a graphics editor and, finally, a layout editor. The first is used for typing in your text and is one of the best text editors to be integrated into any DTP program. Not only can you import Ascii or LocoScript files into the program, it also has a word counter. It's essential to do your page layout planning well away from the computer before you start, because the text editor will ask you to enter details like column width, font size and leading when you begin typing in the text. What is disconcerting is that you won't see these specifications taking effect on the screen in front of you. The program will then calculate the column length for you; all you have to do is write to fit to the space. Fleet Street's word processor offers you a selection of five fonts and four type sizes: 12, 18, 24 and 36 point. More than adequate.

Despite these advantages, David has found over the years that Fleet Street's text editor has some serious and irremediable shortcomings: 'Sometimes the program will suddenly stop inputting from the keyboard due to insufficient memory. It will inexplicably insert random linefeeds when typesetting onto the page and does the same again when the text is recovered from the page back into the editor. The hyphenation doesn't work either.'

Fleet Street's clip-art library contains over 100 items which can be sized up or down, rotated and generally edited to your heart's content. As with the other DTP programs we've looked at, there is a freehand option and zoom facility which will transport you to pixel-level accuracy if you need it.

Fleet Street Editor's layout editor is the heart of the program. This is where the text and graphics you've prepared earlier are integrated onto the (almost) finished page. If you've done your homework beforehand, everything should fit. Page headlines are then entered straight onto the page from the keyboard.

Fleet Street Editor is certainly one of the most ambitious packages we've looked at. Although its graphics and design features are limited, its text handling capabilities are versatile and competent. It is marred by the occasional but quite serious shortcoming, but will make a good choice if you're in the business of producing a lot of pages as quickly as possible. Fleet Street Editor Plus can be used with the Kempston mouse. ■

THE FULMAR BUGLE

Issue 22 Audited circulation: 19 copies June 1989

Brighton Run – never again?

QUACK!

THE OCCASIONAL ORGAN OF THE WESSEX DUCKS

The Crown – OKAY!

David Solomon and Fleet Street Editor Plus produce a family newspaper and the Wessex Ducks 2CVGB newsletter called Quack

FLEET STREET EDITOR PLUS

PLUSES	MINUSES
▲ Powerful and ambitious	▼ Expensive
▲ Impressive word processor	▼ Prone to crashing
▲ Multi-page design facility	▼ Will only read from - and not write to - drive B
▲ Good documentation	▼ Program loading is prolonged and tedious

PERFORMANCE	4/5	RANGE OF FEATURES	4/5
EASE OF USE	3/5	DOCUMENTATION	4/5

8000 PLUS VALUE VERDICT 15/20

Master Scan: the original digitised image that the program has been able to produce from a photocopied illustration

Master Paint

At £13 Master Paint is a relatively good buy. It works on a WIMP (Windows, Icons, Menus and Pointers) system which was all the rage a few years ago. What this means is that you should never have to type anything while using it. Especially if you make use of the AMX mouse.

WIMP environments lend themselves to creative design as the flow is rarely broken. With Master Paint there is also a great deal else to maintain that flow. There are options to Freehand draw, create shapes from circles to filled ellipses. Line drawing is made simple, as is the ability to move and copy blocks.

As a drawing tool there is a great deal to be said for Master Paint. It's Zoom facility allows for detailed, close-in work. This allows you to view, and alter areas of the screen pixel by pixel. There are also a few businesslike fonts available but, at heart, Master Paint is a graphics system. ■

MASTER SCAN

PLUSES	MINUSES
▲ Simple to use	▼ Text qualit is very poor
▲ Scanned images port to most DTP packages	▼ Needs pictures to be photocopied
▲ Cheap	

MASTER PAINT

PLUSES	MINUSES
▲ Quick and easy to use	▼ Print quality isn't fantastic
▲ Plenty of facilities	▼ Can't move large blocks
▲ Undo is useful	

PERFORMANCE	3/5	RANGE OF FEATURES	4/5
EASE OF USE	4/5	DOCUMENTATION	3/5

8000 PLUS VALUE VERDICT 14/20

Complements galore

Since the appearance on the market of the DTP programs mentioned in these pages, other secondary, complementary packages have been written to boost their supplies of clip art and fonts.

Stop Press:

Complement Fonts and Borders (£12.50 from Dragonfly Designs, 58 The Shrublands, Horsford, Norwich NR10 3EL)

Clips and Fonts Desktop Magic Clip Art (£12.50 per disc from HD Design, 3 Roundthorn Way, Goldsworth Park, Woking, Surrey Gu21 3QN)

Get Set Typeset (£24.99 from Tecnation, 23 The Nursery, High Street, Sutton Courtenay, Abingdon, Oxfordshire OX14 4UA)

HD Computer Aided Graphics (£7.99 from HD CAD Design [0486 781394])

Newsdesk International: Clips and Fonts Desktop Magic Clip Art (£12.50 per disc from the above address)

Get Set Typeset (£24.99 from the above address)

The Desktop Publisher: Clips and fonts Desktop Magic Clip Art (see above)

Headlines (£7.99 from Wadd Soft, 227 Church Road, Lytham St Annes, Lancashire FY8 3NN)

Newsdesk International: Electric Studio Snip Art (£7.45 per disc [6 discs] from Electric Studio [0462 675666])

Small businesses
Self-employed
Professionals
Personal finances
Clubs etc etc

MONEY MANAGER PCW

£49.95

For business, professional or personal use, MONEY MANAGER is the ideal system for managing your money.
Far easier to set up and to use than other accounting software -
- yet packed with an unrivalled range of features for fast, efficient and enjoyable control of your finances.

- All options are selected from a menu
- Any number of data files- business - personal - etc
- 12 months of accounts per file, with up to 500 entries /month
- Move file forward by a month at a time when required
- Up to 20 user-defined accounts (banks, cash, cards, etc)
- Up to 50 user-defined classes of income/expenditure
- Arrange classes into logical groups for powerful analysis
- Design classes to suit your own special environment
- Up to 50 user-defined "marks" for extra report selectivity
- Fast and natural data entry - like adding lines to a statement
- Optional reference (up to 6 characters) for each entry
- Your own descriptive text (up to 18 characters) for each entry
- Your codes are displayed on the screen during data entry
- Add, modify or delete existing items at any time
- Quick insertion of regular entries/standing orders
- Sort entries into date order at the press of a key
- Specify account/class/class group/mark for each report
- Detailed statements, item by item, for any range of months
- Totals for each class of transaction for one or more months
- Spreadsheet-type table showing class totals for each month
- Reports may be for consolidated class groups
- Report showing class totals for each account
- Account statistics - monthly max, min, average balances etc
- Bar charts for up to three selected categories of entry
- Pie charts for up to 20 selected categories of entry

- Report of monthly income, expenditure and cash-flow
- Report of account and class totals (eg profit & loss etc)
- Automatic calculation of VAT (with multiple rates if required)
- Detailed VAT reports showing taxable, VAT and gross amount
- Summary VAT statements in same format as VAT return
- Simply ignore VAT features if they are not required
- Detailed bank statement reconciliation with running balance
- Budget and cash-flow forecasts - may be updated
- Print any report on built-in PCW printer
- Printing may be switched to a separate printer
- Attached Dot-matrix, Daisy and Laser printers supported
- Print any report to a file for use with Locoscript etc
- Data search facility to find "lost" items
- Full vertical and horizontal screen scrolling of reports
- Pop-up five-function multi-line calculator with memory
- Macros to record and play back sequences of key-strokes
- Context-sensitive help windows appear at the touch of F1 key
- Back-up copies of data files created automatically
- Easy installation routine produces self-starting "turnkey" disc
- Data may be kept on program disc or on separate disc(s)
- Suitable for PCW-9512, PCW-8512 and PCW-8256
- Suitable for single or twin disc systems
- Comprehensive 64 page manual (with index)
- Two sample sets of data provided for initial practice
- Free and indefinite telephone support

Here are some comments from the people who matter and who really know the system - the users:

I am so impressed with the software that I thought you might like to know that I think it is superb and surpasses many other packages I have bought at more than twice the price of Money Manager. Thanks for a fantastic, easy to use piece of software that represents outstanding value for money. **D.A.J. (Lincs)**

I cannot let this opportunity pass without repeating my satisfaction with Money Manager. I am using it for the book-keeping of several small businesses. Before I retired recently after 40 years in banking, 24 of which were as a branch manager, I would have been delighted if my small (and some not so small) business customers had presented me with figures and statistics of their businesses as produced by Money Manager. It really is a program which, being so easy to use, could save many businesses from the chaos and disaster which can, and so often does, result from poor or non-existent book-keeping. **R.A.L. (Cheshire)**

Thank you for providing such a marvellous and easy to use program at such a reasonable price. No longer do we guess how much is where and no decisions are made without first consulting Money Manager. **K.D. (Milton Keynes)**

I think this is the best program that I use on my computers and I have tried quite a few programs! **A.B. (Iceland)**

I have bought the new Money Manager - and I think it is magnificent. The manual is so rare in the mass market: a well printed, clear, concise, friendly instruction booklet written for us amateurs who really aren't computer experts, and don't particularly want to be. I really do congratulate whoever listened to the market, and whoever wrote the instruction book. Well done indeed! **C.P.G. (Hove)**

I have been very pleased with the program, in fact it is an indispensable part of my business. My accountant is pleased and I'm sure it saves some of his fees due to the reports etc that I can give him. It's incredible that it can be so good at this price. **L.P. (Walsall)**

The program is perfect, just what I needed. If it were edible I would have a second portion. **N.T. (Wilts)**

I should like to say how pleased and impressed I am with Money Manager. It seems to me far simpler, faster and more flexible than any of the other accounts packages I have looked at. I have so far used it to prepare two sets of accounts for a small business, and am delighted with the results. **R.D.H. (Yeovil)**

I must say that next to my word-processor this has to be my most frequently used program and certainly has made an astounding change to our finances. All in all .... brilliant! **Dr I.N.P. (Co Durham)**

I would like to take this opportunity of congratulating you on an excellent program. I am treasurer of a local cycling club and the help that the program gives me in that job is tremendous, and impresses the auditors too! It is also very useful to be able to keep track of my personal accounts, and know to the penny how much I owe to the various credit card companies. Keep up the good work! **J.F.N. (Wilts)**

Over 25,000 users can't be wrong!

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To receive your copy of MONEY MANAGER PCW by return first class post, either send a cheque or phone quoting your Visa, Access or Amex card number for immediate despatch. Mon-Sun 8am-10pm Price £49.95 includes VAT & postage.

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BOOK LOOK

Basil Pigg gives an account of two new books on business computing

THE A-Z OF BUSINESS COMPUTING

by Adrian V Stokes
£14.95 ● Heinemann ● 0865 311366

There's a problem with some dictionaries that in trying to define information in a compact and succinct way they only succeed in being a collection of incomprehehsible one-liners.

For example, should you be reading an account of fossilised Australian corals and find the word 'phacelloid', you find the Penguin Geological dictionary not too helpful. Under 'phacelloid' it says 'synonym for fasciculate'; for 'fasciculate', it says 'phacelloid is a synonym'.

While this A-Z is a little more detailed than that, it does nevertheless fall into the trap of being too glib too often. Look up 'TPA' (a term that appears on your PCW screen every time you start up CP/M) and it says 'An abbreviation for "Transient Program Area", an area of memory used in CP/M systems to load programs transiently'.

Knowing what the letters stand for might be useful should your local Pub Trivia Quiz ever have a round of questions on CP/M, but I didn't find the entry at all enlightening. The 'definition' is little more than a padded-out rewrite of the term itself.

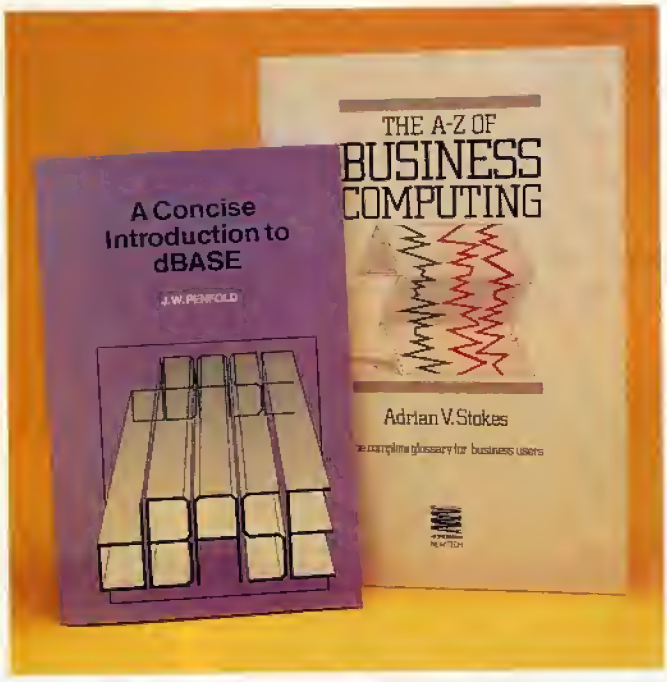
Other definitions simply require too much prior knowledge to be at all useful to the beginner. Looking up ASCII, for instance, you find that 'it is nearly always used with an eight-bit byte with the extra (top) bit either being set to zero or used for a parity check'.

Of course, it gives an ASCII table, but not the familiar form of 'a=97, b=98, c=99' etc. which clearly shows what the code is about; it gives instead a tabular form where 'a' appears in the box 1 across and 6 down, 'Z' is A across and 5 down, and the 0 and 1 rows are full of unexplained bits of Polish such as STX, VT and NAK. If you tire of the crosswords in the back of Sunday supplements because of their simplicity this may be for you; otherwise not.

Ever wondered what a spreadsheet is, or a database?
Don't bother looking here. The entries are terse and dismissive and explain little. Margin notes in 8000 Plus are more detailed and helpful.

What the book (and the reader) cries out for is examples. Instead of rewriting tired old definitions, it should be giving an example of what this thing looks like, how it works, and what it's used for.

The book is fairly comprehensive but the illustrations are skimpy and consist mainly of off-the-shelf press shots of computers. All in all I'm afraid to say it's really a waste of money. Beginners will merely be confused and spend all their time thumbing through to chase up the cross-references. Don't buy it unless you already know your stuff, in which case you won't need it anyway. ■



THE A-Z OF BUSINESS COMPUTING
ISBN: 0434 91875
8000 PLUS VALUE VERDICT 2/5

A CONCISE INTRODUCTION TO DBASE

by J W Penfold
£3.95 ● Bernard Babani ● 01 6032581 / 7296

There are several excellent databases available for the PCW: Masterfile, AtLast, Mini Office and so on. But for business users, dBase is a much more familiar name, because of that program's widespread use on the PC.

dBase II – the only version for the PCW – must be the most unfriendly program of all time; when you run it, all you see on screen is a single dot. To use the program you type in a series of commands, rather like in CP/M, but they're all special database commands – DISPLAY NAME,PHONE for example might display on screen a list of names and telephone numbers from your customer file. dBase is really a very powerful database programming language rather than a simple database program, and you can write 'programs' for your own database system.

dBase IV can be run off a system of menus rather like LocoScript, but this is only available for the PC. On the PCW, you're stuck with dBase II. Learning to use dBase is like learning to use a programming language, which is where this book comes in.

Only the first forty-nine pages of the book actually talk about dBase II (the rest being devoted to the later versions) but what is there is methodical, concise and clear. The cut-price nature of it all means there's only time for one example database to be covered in any sort of detail, which is a sort of stock record for a book publisher with some amusing book-and-author combinations. Illustrations on the example are reasonable enough but the introduction – on what a database is and how it can be used to good effect – is rather brief, unaccompanied by either meaningful real examples or pictorial illustration. It is doubtful whether beginners would find it particularly enlightening.

However, for someone who is coming to dBase for the first time, it delivers what it promises in the title – a concise introduction – with no frills – to this important program. At £3.95 for a computer book you can't really complain, and while the PCW-relevant dBase II parts are short, the sections on dBase III and IV would be useful for anyone who also uses a PC or is thinking of upgrading. The verdict, therefore, is that it's a book worth buying for the first-time dBase II user, and worth the cover price – but if you get deep into the program and want to write detailed applications of your own, you'll be after one of the weightier and more expensive guides to dBase that fill the bookshops. ■

A CONCISE INTRODUCTION TO DBASE
ISBN: 0 85934 208 5
VALUE FOR MONEY 3/5

YOU GOT RHYTHMS

Biorhythms; gimmicks or godsends? Pete Gerrard looks at IMC's new package

BIORHYTHM

£19.95 ● IMC Software ● (0604) 54814

As the accompany paper documentation tells us, "Within you, there is a clock". I must confess that mine needs winding up occasionally, usually after a hard night's 'sporting' endeavours down at the local pub. Would IMC's Biorhythm change the Gerrard way of life?

A great deal of evidence in favour of the biorhythm approach to life has been collected since the early studies at the turn of the century. The press release which came with Biorhythms mentions several interesting case studies. There may well be an equal amount of evidence refuting biorhythms, I don't know, but many companies in the States and also in Japan claim to have increased the overall performance of their employees by keeping a close check on their biorhythms. I am writing this review on what is termed a "critical" mental day. Make of that what you will.

Start your cycles!

After making the recommended back-up copies and preparing a start-of-day disc I set out to see what Mallard BASIC and Biorhythm could do for me. Several things soon became apparent. The suite of programs (for there are more than one) are very smartly presented with some very attractive screen displays. They make the most of the PCW's graphics abilities.

A minor flaw is that the manual is stored on one side of the disc (although the package is easy to learn). Consulting it requires a quick swap of data disc and back-up program copy then swapping again after a swift read to get back to the job in hand. For those who are interested, a lot of biorhythm history and theory is also included.

You really get started by (a) telling the program what breed of PCW it's running on and (b) informing it of your date of birth. There are several nice touches about this suite of programs; such as instant working out of the day from any given date. There is also a little "Thank You" message which sometimes appears when you're swapping discs in the early stages. It all helps to give a friendly feel to the program.

From the main menu, with most of the programs sitting in drive M: even on an 8256, the obvious thing to do is to take a peak at your biorhythms. You are allowed to look at all three cycles (physical, emotional and mental) in a number of different ways.

Introversion 1

You can see each one on its own or in a variety of groupings. A very simple method of date selection allows you to scan forward through the months and search for any potential disaster days.

The next option is called Biofeedback. This allows you to match your personal biorhythm cycle(s) with your performance in real life without affecting your standard cycle (the one that you were born with, I presume). The display looks rather like the main biorhythm one, only with a few more days visible.

Bionotes and Biodiary come next. The Biodiary is a very good sub-program on its own, covering one hundred years from 1st January 1989. Three days at a time are displayed on screen in three separate windows.The good thing about this is that three totally un-connected days from vastly differing years can be shown at the same time. The system finds your appointed dates very quickly and any data is entered using a simple, but effective, text editor.

The Bionotes section is the place for you to record your thoughts about how your performance matched up with the program's predictions. This is mainly for dedicated biorhythmers who are deeply 'into their cycles', I would imagine.

Risk's place

Bioplanner lets you search through a given period of time for a selected mixture of physical, emotional and intellectual states. However, the most interesting section by far of the program (or at least as far as I was concerned) was the printout options of which there are many.

Printing can be done to either personal organiser or A4 paper formats. It covers the biorhythms, the diaries, the notes, and just about anything else you might care to mention. Printing out your PEM (Personal Emotional Mental) Summary points out days which the program considers as RISK, HIGH RISK and even SERIOUS RISK. How I survived November 6th is a mystery. Even Christmas Day seems something of a risk, coinciding with my emotional state being at an all time low.

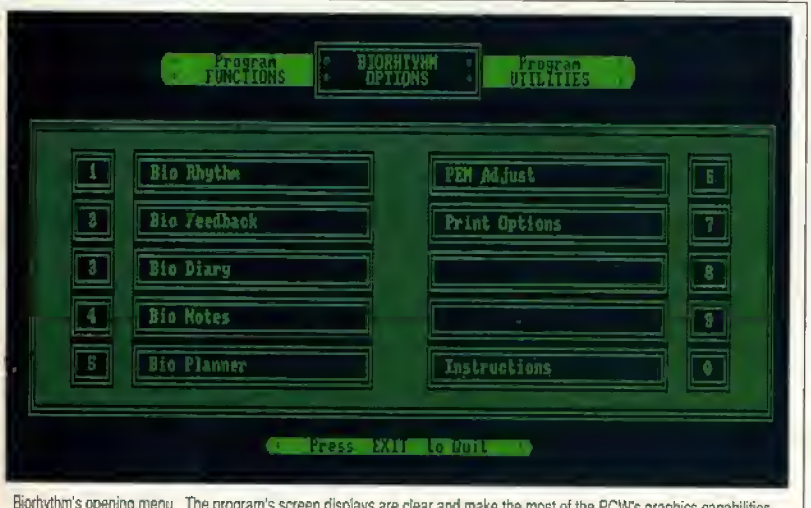
For people interested in biorhythms, this is a comprehensive and inexpensive suite of programs, and for non-believers it will provide some harmless fun. ■

Hammer and cycle

The study of biorhythms started off at the turn of the century with the work of two men, Dr. Fleiss and Dr. Swoboda. They observed a 'physical cycle' of 23 days and an 'emotional' one of 28 days among the group of people that they were studying. Later work pointed to a 33 day mental cycle. These cycles, so it is claimed, begin the second you are born and carry on (repeating themselves over and over again) until you shuffle off this mortal coil.

You cannot be serious!

The accompanying documentation gets off to a bad start by telling you to make a backup copy of "the game". But Biorhythm Invaders was not to be; this is a serious program.



Biorhythm's opening menu. The program's screen displays are clear and make the most of the PCW's graphics capabilities.

BIORHYTHM

PLUSES

- ▲ Easy and fun to use
- ▲ The only program of its kind
- ▲ Clear, attractive screen displays and versatile printouts

MINUSES

- ▼ Documentation is on disc

RANGE OF FEATURES	5/5	EASE OF USE	5/5
PERFORMANCE	4/5	DOCUMENTATION	2/5

8000 PLUS VALUE VERDICT 16/20

Do you require extra memory but would prefer not to dismantle your PCW ?

Then you need the SCA plug-in RamPac

This simple to fit unit attached to your PCW provides an extra 512k of ram to enable LocoScript2, LocoFont, LocoMail, LocoSpell, plus a selection of fonts from Loco-Font, all to be loaded into memory and still leave plenty of space. CP/M users now have an 880k ramdrive.

The SCA RamPac plugs onto the expansion port on the rear of the PCW, and a through-connector is provided for other peripherals. Further expansion up to the 2mb maximum will be available. A concealed switch configures the RamPac for use with either the 8256 , or 8512 & 9512 machines.

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ELECTROMAGNETIC ETIQUETTE

Dear Miss Magnetic Media,
I've become acquainted with a famous author who nervously mails "security copies" of his novel-in-progress to friends. This is great because you get the perk of reading the books before they hit the best-seller list. When his latest was published, I naturally returned the discs with the draft versions. Back came a thank-you letter which I thought slightly chilly. Have I blundered?
"Worried."

Miss Media replies: You have encountered a problem of etiquette so novel as to be absent from the guidebooks. See below....

Dear Miss Media,
I'm a starving writer and recently made my first sale. As recommended by that bigmouth Langford, the print-out's covering page said: "Text available on 3" disc in LocoScript or ASCII format." The magazine was glad to avoid retyping, so all was well, except that months later they hadn't returned the disc. When I enquired, they sent it back sort of reluctantly and said something about being afraid of insulting me! Should I now feel insulted, and if so, why?
"Impoverished"

Miss Media replies: This embarrassment arises from friction between different social and financial strata in computing. It began when well-heeled organisations and computer owners chose to become uppity about returned discs. "We don't ask people to send back letters so we can clean the paper for re-use," one imagines them sniffing. "We can afford endless new discs. Returning them implies that we're penny-pinchers. What an insult!"

Alas, a PCW user who mails many discs cannot afford this haughty contempt for bank managers. The big-time attitude was formed by the traditional IBM 5.25" disc (which in bulk costs as little as 20p) or the cheapest 3.5" equivalent (perhaps 50p), rather than the 3" Sugar Special at a minimal couple of pounds.

Miss Media suggests that much heart-searching might be avoided if senders of material on disc were to inscribe the label *No need to return this*, or alternatively, *Please return after copying files –thanks.*

Those objecting to the latter plea should contemplate the virtues of Green policy. Causing correspondents to buy new discs uses up resources; recycling old ones doesn't. Conversely, if you're so eager not to insult others, do you throw away their discs to avoid demeaning yourself (scandalous waste!), or furtively re-use them? Be honest, now.

Dear Miss Media,
Are you aware that cardboard mailing boxes for floppies cost more than new discs? Ecologically it's better to throw discs away than mail them back.
"Megacorporation"

Miss Media was addressing the long-suffering PCW owner, whose sturdy little discs can be safely posted in used jiffybags, or even ordinary envelopes (cardboard stiffeners are advised). Doubtless there's small hope of persuading corporations, no matter how Green, to soil their squeaky-clean image by mailing all discs with cardboard protection cut thriftily from supermarket boxes. A pity.

Twice each blue moon, a disc is scrambled or cracked in transit. Accept this as our kindly post office's way of making you grateful for (a) sending battered old discs; (b) retaining backups.

Dear Miss Media,
This public domain disc has me foxed — there are no instructions, and I can't load the file READ.ME which might explain things.
"Baffled"

Miss Media replies: To book-lovers, that filename evokes some unpublished Lewis Carroll fragment in which Alice discovers a small text file called READ.ME and finds on doing so that it magically turns her brain to mush.

LANGFORD

A page in the company of author and PCW pundit David Langford

The READ.ME (or README.DOC, or READTHIS.NOW, or whatever) information might be in LocoScript format or "plain ASCII text". Those accustomed to CP/M or other machines' MS-DOS will expect ASCII, and react by entering TYPE READ.ME at the CP/M prompt. Hardened LocoScript users naturally attempt to peep with E for Edit.

If it's ASCII, LocoScripters should create a new document and load in READ.ME via "Insert text" ([f7] "Modes" in Loco 1; [f1]"Actions" in Loco 2).

If LocoScript... might it be suggested to perpetrators of READ.ME files that they use Loco 1, which everyone can read, and not Loco 2, which frustrates unregenerate Loco 1 users? To comfort those who try CP/M and TYPE, a message in LocoScript's "identify text" (editable through "Modes"/"Actions") is a shrewd ploy. This text, preceded by the letters JOY, is what TYPE will display when READ.ME is a Loco file; its 30 characters allow room to declare, "Read me with LocoScript, clot!"

Miss Media retains an old-fashioned preference for clearly printed instructions on archaic paper.

Dear Miss Media,
I sent my novel on disc to this writer I know, but she says she's scared of inserting strange discs for fear of viruses. How can I reassure her?
"Plague Vector"

Miss Media can only applaud the brilliance of your friend's excuse for not reading your ghastly book, while answering with enormous regret that it's unfounded.

Were a PCW virus ever to emerge, it would be spread by infected "start of day" discs, or perhaps ".COM" program files in CP/M. Using your own LocoScript to examine alien document discs is always safe.

Dear Miss Media,
Har har CAUGHT YOU OUT! You said reading discs was ALWAYS SAFE what about this then. I pull back the shutter, put on a streak of superglue and sprinkle with fine carborundum. Anyone reads it, they need a NEW DRIVE, brill eh?
"Smartass"

Miss Media replies: There is a time for measured considerations of etiquette and there is a time for petrol-soaked blazing crosses to be hurled through windows. In your case one is reluctantly compelled to the latter course of action.

Careless tea- or coffee-drinkers are warned that a dried spill on the disc surface may have almost as exciting an effect as carborundum....

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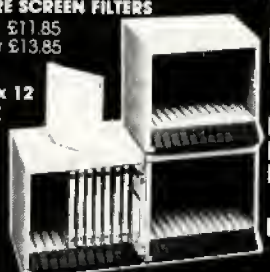

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LISTINGS

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SHAKEY.BAS

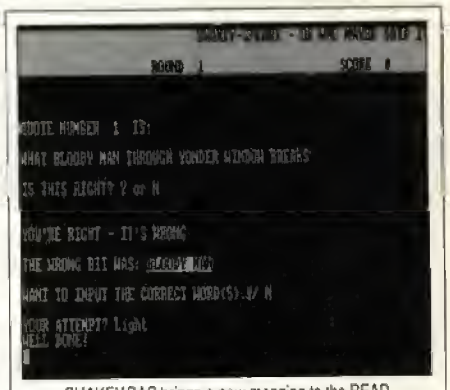
By Thomas Coughlan

Tom Coughlan comes from the suburbs of Dublin, the city where such towering figures as Yeats, Joyce, Shaw, and Kavanagh made their respective marks. **SHAKEY.BAS** is a program which tests your knowledge of great literature by asking you to state whether a given quotation is correct or not. Once you've done this you are prompted to give the missing word or words if the quote was wrong. Finally you are asked to name the author. The more you get right, the more points you accrue. The game is played over five rounds and you are then asked whether you wish to start a new game or quit.

As Tom mentions in his comprehensive notes to SHAKEY, the program is the basis of a larger effort. Improvements could be made; for example, instead of using DATA lines you might like to read a file into the program. However, in its present form SHAKEY should provide both fun and the chance to look at some clear programming.

One of the more interesting elements of the listing is the production of two boxes. The smaller one, in reverse video at the top of the screen, contains the details of which round you are playing, the name of the game and your score. It will remain there until terminated in line 550. This box is created in line 20 by defining the user function **w$**. The parameters given are for the Right and Left corner co-ordinates and height and width.

Lines 290 and 300 print both this small box and the larger 'playing area'. So, if you crash out of this while running the first versions of the listing you will need to use the window definition in line **550 PRINT FNw$(0,030,90)** followed by **PRINT cls$**.



SHAKEY.BAS brings a new meaning to the READ command in BASIC.

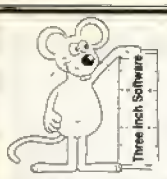
The use of DATA lines in SHAKEY.BAS is also worth noting. Line 60 dimensions the various DATA arrays. For example, **DIM f$(ti)** uses **ti**, the variable which holds the total number of DATA items to dimension the array for 'first part of the quote'. DATA is used here with economy and some style.

```
10 esc$=CHR$(27):cls$=esc$+"E"+esc$+"H"                                          0DAF
20 ron$=esc$+"p":rof$=esc$+"q":PRINT cls$                                        109F
30 DEF FNw$(r,l,h,w)=esc$+"X"+CHR$(32+r)+CHR$(32+l)+CHR$(31+h)+CHR$(31+w)        1AC8
40 DEF FNat$(ro,co)=esc$+"Y"+CHR$(ro+32)+CHR$(co+32)                             15FF
50 RANDOMIZE (PEEK(64504!))                                                      0B11
60 sc=0:ti=10:DIM f$(ti):DIM s$(ti):DIM r$(ti):DIM c$(ti):DIM n$(ti)             1DC2
70 FOR x=1 TO ti:READ i$:f$(x)=i$+" ": NEXT                                      1267
80 FOR x=1 TO ti:READ i$:s$(x)=i$:NEXT                                           12BB
90 FOR x=1 TO ti:READ i$: r$(x)=" "+i$:NEXT                                      11E1
100 FOR x=1 TO ti:READ i$:n$(x)=i$:NEXT                                          131D
110 FOR x=1 TO ti:c$(x)=f$(x)+s$(x)+r$(x):NEXT                                   14FB
```

The various escape routines, such as clear screen, are set up here. So are the windows.

```
120 DATA "WHAT","WHAT","QUOTH THE","A"                                           10F1
130 DATA "CAST A","LIKE AN","THE","HOW A","A"                                    131A
140 DATA "A GOOD", "BLOODY MAN","LIGHT"                                          11F6
150 DATA "RAVEN","TERRIBLE BEAUTY","COLD EYE"                                    1638
160 DATA "ARMY","SPIDER","BEAR","SNAKE","CIGAR","IS THIS"                        1933
170 DATA "THROUGH YONDER WINDOW BREAKS","'NEVERMORE'"                            1C75
180 DATA "IS BORN","ON LIFE ON DEATH"                                            1119
190 DATA "DEFEATED","IS SOLE DENIZEN"                                            10B2
200 DATA "LIKES HONEY", "CAME TO MY WATER-TROUGH"                                1977
210 DATA "IS A SMOKE","SHAKESPEARE"                                              1041
220 DATA "SHAKESPEARE","POE","YEATS","YEATS"                                     15A7
230 DATA "WORDSWORTH","HARDY","MILNE"                                            1328
240 DATA "LAWRENCE","KIPLING"                                                    0DE4
```

Have more fun than usual typing in this DATA. The quotations and authors are included here.



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```
250 sc=0:sp$=SPACE$(20):PRINT FNw$(0,0,5,90):PRINT cls$;ron$                1B4E
260 PRINT SPACE$(27);"SHAKEY-SPEARE - OR WHO MAYBE SAID IT";SPACE$(27)      204E
270 PRINT SPACE$(90):PRINT ron$;sp$;"ROUND ";rd;sp$;"SCORE ";sc;SPACE$(31)  22BC
280 FOR rd=1 TO 5:flag=0                                                    0AF7
290 PRINT FNw$(0,0,5,90):PRINT ron$;FNat$(3,26);rd;FNat$(3,55);sc           1C17
300 PRINT FNw$(6,0,24,90):PRINT rof$,cls$                                   10D5
310 PRINT "QUOTE NUMBER ";rd;" IS:":PRINT                                   1533
320 x=1+INT(RND*ti):y=1+INT(RND*ti)                                         11AB
330 PRINT f$(x)+s$(y)+r$(x):test$=f$(x)+s$(y)+r$(x):PRINT                   1905
340 IF test$=c$(x) THEN GOSUB 560 ELSE GOSUB 580                            1539
350 IF flag=1 THEN 490                                                      08CD
360 PRINT "THE WRONG BIT WAS: ";ron$;s$(y);rof$:PRINT                       1A2F
370 PRINT "WANT TO INPUT THE CORRECT WORD(S).Y/ N":GOSUB 620                2042
```

The game loop FOR rd=1 to 5 is set up and the windows are printed to screen.

```
380 IF rep$="N" THEN GOTO 430                                               0BB2
390 INPUT "YOUR ATTEMPT";ya$:ya$=UPPER$(ya$):test$=f$(x)+ya$+r$(x)          2204
400 IF test$=c$(x) THEN 410 ELSE 420                                        0F29
410 PRINT "WELL DONE!":sc=sc+3: GOSUB 660:PRINT cls$:GOTO 490               1C3E
420 PRINT:PRINT "SORRY, WRONG":PRINT                                        156D
430 PRINT f$(x)+ron$+s$(y)+rof$+r$(x):PRINT                                 156E
440 FOR z=1 TO ti:PRINT z;" ";s$(z): NEXT                                   14A2
450 PRINT:INPUT "CHOOSE BY NUMBER FROM LIST TO REPLACE WORD(S)";n            23A9
460 test$=f$(x)+s$(n)+r$(x)                                                 0B14
470 IF test$=c$(x) THEN sc=sc+1:PRINT "CORRECT":PRINT:GOSUB 660:GOTO 490    2492
480 PRINT "SORRY. WRONG. IT WAS: ":PRINT c$(x):GOSUB 660                    1CF5
490 FOR z=ti TO 1 STEP -1:PRINT (z*-1)+11;" ";n$(z):NEXT                    1807
500 PRINT:INPUT "ENTER AUTHOR NUMBER FROM LIST ABOVE";ano:ano=(ano*-1)+11    26B8
510 IF n$(x)=n$(ano) THEN sc=sc+3:PRINT "CORRECT":PRINT:GOTO 530             211E
520 PRINT "SORRY. IT WAS ";n$(x)                                            101F
530 GOSUB 660:NEXT                                                          0857
540 PRINT "ANOTHER GAME. Y or N":GOSUB 620:IF rep$="Y" THEN 250             1D3E
550 PRINT FNw$(0,0,30,90) cls$:END                                          0D2A
560 GOSUB 610:IF rep$="Y" THEN sc=sc+6:PRINT "CORRECT":flag=1:RETURN        2127
```

The quote must have been wrong, so you are challenged to fill in the missing word or words.

```
570 PRINT "YOU'RE WRONG - IT'S RIGHT":flag=1:RETURN                         1A7A
580 GOSUB 610:IF rep$="N" THEN sc=sc+3:PRINT "YOU'RE RIGHT - IT'S WRONG"    2136
590 IF rep$="Y" THEN PRINT "YOU'RE WRONG AND SO IS THE QUOTE":PRINT         22CE
600 PRINT:RETURN                                                            0975
610 PRINT "IS THIS RIGHT? Y or N":PRINT:GOSUB 620:RETURN                    1D91
620 rep$=INKEY$:IF rep$="" THEN 620                                         1105
630 rep$=UPPER$(rep$)                                                       0B1B
640 IF rep$<> "Y" AND rep$<>"N" THEN PRINT "Y/N ONLY":GOTO 620              1CE0
650 PRINT:RETURN                                                            0984
660 FOR t =1 TO 4000:NEXT:PRINT cls$:RETURN                                 1607
```

"You're wrong – It's RIGHT" applies to the quote. In this case you are merely asked to name the author.

How to type in listings

First get Mallard BASIC running. To do this take your CP/M disc – not the Master disc, but a copy – and type BASIC at the A> prompt.

BASIC has been loaded when the A> disappears and is replaced by ok. Now you're ready to type the listings as they appear line by line except for the four figure hex numbers which appear at the end of each line; these are check digits.

When you've finished typing a line check it for typing errors. When you're certain everything is correct, press [RETURN]. If, before this, you find a mistake, then cursor back to it and make the correction. Once you're happy, go on to the next line.

If you spot an error after you've moved on, you can type EDIT followed by the line number. Edit the line using the cursor keys and make changes using [DEL]. Press [RETURN] and the line will be accepted in the corrected form.

When you've finished typing the program, you should type LIST. This will print the listing on the screen. If you want a printout type LLIST. Now, think up a file name such as A:SHAKEY; don't worry about using .BAS after it. The name should be no longer than eight letters. To save your program, type SAVE followed by the filename you chose.

The next thing to do is type RUN. If the program runs first time you're in luck. If not, don't worry it happens to us all. BASIC will probably give you an error message with a line number. This might not be the exact line but it will narrow down the search. If all else fails, read the manual.

MENUBAR.BAS

By H M Dixon

One of the many subroutines which you will see programmers plagerising, or should that be *learning*, from others is the dreaded Menu. H M Dixon's program not only presents you with an excellent menu routine it also places it along the bottom of the screen. This gives a pseudo Printer command bar look. However even when your menu is running and stunning other, lazier programmers, the Printer bar can still be accessed.

The program is a simple affair, involving no machine code. It is still highly effective and profitable. One of the most impressive sections is the use of **ON** in line 100. This saves a great deal of time and space. It achieves the completion of a task with speed, and some elegance.

Of course if you wanted to include it in a full blown program you would need to get rid of lines 200-700 as these merely include dummy 'options'. They are merely there to give you some feel for the workings of Menubar. In a working program you would exit to the subroutines which would, for example, **Fetch data.** The options themselves can be changed to suit your needs by editing lines 70 and 80.

It might not look like much but MENUBAR is a smart way of achieving a necessary task.

```
10 REM 'menubar.bas' by H.M. Dixon                                    1074
20 e$=CHR$(27):rv$=e$+"p":nv$=e$+"q":PRINT e$+"0"                     12D0
30 cl$=e$+"E"+e$+"H":PRINT cl$                                        0ABE
40 DEF FNa$(x,y,m$)=e$+"Y"+CHR$(32+y)+CHR$(32+x)+m$                   143F
50 DEF FNi$(x,y,m$)=FNa$(x,y,"")+rv$+m$+nv$:DEFINT i,k,n              1998
60 num=6:FOR i=1 TO num:READ menu$(i):NEXT                            1559
70 DATA "Fetch record","Enter data","Enter formula"                   1882
80 DATA "Save data","Print cell","FINISH"                             13E6
90 GOSUB 1000:REM print main menu                                     1188
100 ON k GOTO 200,300,400,500,600,700                                 0BC4
```

The scene is set with reverse video, both on and off being defined. The main bar and smaller boxes are also defined in lines 40-50

```
200 PRINT "You chose Fetch record":END                                14B4
300 PRINT "You chose Enter data":END                                  122A
400 PRINT "You chose Enter formula":END                               1634
500 PRINT "You chose Save data":END                                   1159
600 PRINT "You chose Print cell":END                                  1266
700 PRINT "You chose FINISH":END                                      10F5
990 REM **** Main menu ****                                           0A52
```

The dummy options. In a real program your program would move onto the relevant sub-routine. These should be removed when incorporating the listing.

```
1000 k=1                                                              02C0
1010 PRINT e$+"f";FNi$(0,30,menu$(1));                                0D2F
1020 FOR i=2 TO num:PRINT FNa$((i-1)*15,30,menu$(i));:NEXT            18AD
1030 a$=INKEY$:WHILE a$="":a$=INKEY$:WEND                             11C8
1040 IF a$=CHR$(6) AND k<num THEN 1050 ELSE 1060                      1382
1050 PRINT FNa$((k-1)*15,30,menu$(k));FNi$(k*15,30,menu$(k+1));       1661
1051 k=k+1:GOTO 1030                                                  080A
1060 IF a$=CHR$(1) AND  k>1 THEN 1070 ELSE 1080                       1256
1070 PRINT FNi$((k-2)*15,30,menu$(k-1));FNa$((k-1)*15,30,menu$(k));   1884
1071 k=k-1:GOTO 1030                                                  0816
1080 IF a$=CHR$(13) THEN PRINT:PRINT FNa$(0,30,SPACE$(90));e$+"e":RETURN 1FE9
1090 GOTO 1030                                                        04FD
```

The real work of the program is carried out here. Line 1050 erases the menu bar and restores the cursor. It will also send the program back to line 80.

FIREWORX WHICH DIDN'T

As many of you will have noticed, last month's Fireworx program was more like "DAMPSQUIB.BAS". Our fault entirely, and like Guy Fawkes, we have suffered suitably appalling punishments. The problem arose in line 260 which ended rather abruptly. The line should be as follows:

```
READ x$:WHILE x$<>"*":POKE a,VAL("&H"+x$):a=a+1:READx$:WEND:RETURN
```

Many apologies to Richard Cox and to everyone who spent time tearing their hair out.

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Listen up

For those readers new to these pages and as a reminder to our regulars, we would like to make the following announcement as we head into the new decade:

Listings Plus is one part of the magazine which relies heavily on audience participation; it's got nothing to do with it being the season of pantomime. The programs which spring from Listings and find their way onto the discs like the Software Collection have nearly all come from you.

In other words, we need your contributions. A slight change of policy, and the inclusion of The Learning Curve, wherein smaller programs will be examined as a regular feature, means that we will now accept listings up to 70 lines long; maybe even longer if the program really makes us sit up and take notice. I

1) The program listing should be in Ascii form.
2) There should be no more than 80 characters (including spaces) per line.
3) You should include full and detailed documentation in printed form or at least as an Ascii file. Notes of the variables and subroutines used should be included, as should any interesting tricks you may have used.
4) If you would like your disc to be returned, you must also enclose a stamped addressed padded bag or at least a sticky label suitable postage.

Now for the good news: we appreciate that even the shortest of programs has probably involved planning, writing, frustration, and intelligence before it gets near to completion. Bearing this in mind, we will pay up to 50p per line. This is dependent on the quality of the program.

So, a top quality program of 50-65 lines could net you around 30 pounds. It should be born in mind that no matter how brilliant your program looks, it will tend to be the most cleanly laid out, clearly documented and concise listings which will win through.

So, if typing-in and running the two programs in this month's issue has made you eager for fame you should send your listings to the following address:

Listings, 8000 Plus, Beauford Court, 30 Monmouth Street, Bath, BA1 2AP.

Finally, for those people who have already sent in work and are wondering what on earth has happened to their discs, we will be getting onto the case as soon as physically possible.

Thanks for the work and please be patient. Happy New Year!

THE LEARNING CURVE

"Smug, self-satisfied, techno-freak"; does this phrase leap to mind when you listen to people saying things like, "But really, BASIC is just soooo easy!" ?

Do manuals make you wish that you had paid more attention to the Applied Serbo Croatian lessons at school? Would you like to kick bytes into the faces of those very technofreaks? Well, the Learning Curve might be able to help you on your way.

The aim of this small section of listings is to take the mystery out of what can be a most enjoyable hobby. For some people the hobby really takes off and becomes a profitable sideline or even a business. We hope that within the Learning Curve things Basic are treated in a down-to-earth fashion. If you think that you could make WHILEs, WENDs, HIMEMs and GOSUBs even more straightforward, then please write to us.

DATA, READ, RESTORE

This month we will look a little more deeply into the role of **DATA** and **READ**, as well as adding a third command which is **RESTORE**. But before that, there is a correction to be made to the final listing in last month's Learning Curve.

As many of you might have guessed, there were not supposed to be two line 30's. The second one should have been line 40! Sorry about that. Now onto this month's gobbet of knowledge.

DATA and READ always accompany each other. The fact is that they are quite useless on their own. A brief listing like the following should give you a taste of what they do.

```
10 READ number%,word$
20 PRINT "The number is" number%
30 PRINT "The word is "word$
40 DATA 100,WORD
```

This program should be typed into BASIC (for details see the How to Type in a Listing Box in the main section). Once you have it running, you will see that on the screen appear the two lines "*The number is **100***"and "*The word is **WORD***." Then the program ends. Now consider the following listing:

```
10 flag%=1
20 READ number%,word$
30 PRINT number%,word$
40 IF flag%=0 THEN END
50 flag%=0:RESTORE 3000
60 GOTO 20
1000 DATA 100,WORD
2000 DATA " A BLANK LINE"
3000 DATA 200,WORD2
```

20 and 30 are exactly the same as in the first listing. The DATA line 1000 is also the same. What is happening is that the program is reading DATA *items* (the items in this case are 100 and **WORD** and 200 and **WORD2**) into memory and PRINT is putting them to screen. But we have added several other factors.

Type the listing into BASIC but when you come to line 50 omit the word RESTORE. When you run the program, you see that you are presented with a Syntax error in line 3000. This is because the READ command in line 20 is looking for a numeric variable ***number%*** (you can tell it is a numeric variable by the % sign at the end). What the program encounters instead is " **A BLANK LINE**" which is obviously not numeric. Hence the error. BASIC will only ever try to do what it is told.

Run the program again but this time include the whole of line 50. Quite simply what this does is to add the **RESTORE** command. This tells READ to point itself at line 3000, consequently skipping the rogue line 2000. Fine and dandy but you are probably asking "Why doesn't the idiot just get rid of line 2000?".

In this small example, removing 2000 would work. But what if you wanted to include several lines of DATA some of which were relevant to one condition and some which were not? The only way to get READ to go where you want it is to include RESTORE followed by a line number. If you use RESTORE without a line number, it merely directs the program pointer to the first line of DATA in a program.

So, for a brief description of these commands then:

DATA: always precedes a list of information or items. These can be alpha (words, letters or even numbers such as telephone numbers which you don't want calculated) or numerics.

READ: goes to the first DATA item it finds within a program and literally reads it into memory where it can be accessed from the program. It then moves onto the next item unless RESTORED.

RESTORE: allows you to control exactly where abouts within the program you want READ to begin is duties. You can only point a READ command to a DATA statement.

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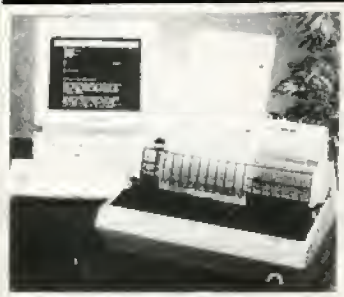

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TIP OFFS

Tips

Questions

Take your PCW into the 1990s with tipoffs!

Can't get that first footing in LocoScript? Feel like a tall dark stranger in CP/M? Failing to make any auld acquaintance with Mini Office, Masterfile, Micro Design and the rest? Then make it a happy new year with Tipoffs and enter a new age. This month there's a tip on dates for all of us waiting to celebrate the coming of the 90s from Rena Smith of Oxfordshire, while Neil Wilson of Ossett wins £30 for his batch of LocoScript and other tips.

Send your questions and tips to 8000 Plus which pays hard cash – or its equivalent in whisky, cake and coal – to the best tips each month. We've now moved to new premises for the new decade, so write to: Tipoffs, 30 Monmouth St, Bath BA11 22AP.

Trouble at t'printers

I note the difficulty readers are having in sending control codes to a Star LC10 printer.

Although I use an Epson GQ3500 laser printer with my 9512, the example may help some people. Of course you need the LocoScript Printer Driver Disc.

To be able to send control codes to the printer it is necessary to create a dedicated printer driver file, by either altering an existing file or creating a new one.

To this file simply add the following set of lines immediately below the initial general instructions.

```
;ESCAPE BITS AND PIECES
!'&1b' "HASH"                0 ; Extra #
!'&00' "USER SYMBOL 0" 0 ; Extra 0
!'&01' "USER SYMBOL 1" 0 ; Extra 1
!'&02' "USER SYMBOL 2" 0 ; Extra 2
!'&03' "USER SYMBOL 3" 0 ; Extra 3
!'&04' "USER SYMBOL 4" 0 ; Extra 4
!'&05' "USER SYMBOL 5" 0 ; Extra 5
!'&06' "USER SYMBOL 6" 0 ; Extra 6
!'&07' "USER SYMBOL 7" 0 ; Extra 7
!'&08' "USER SYMBOL 8" 0 ; Extra 8
!'&09' "USER SYMBOL 9" 0 ; Extra 9
```

The hash can be any normal keyboard character so long as it is indicated in the printer driver file. The title can be any title.

Change the whole thing to ASCII ('Make ASCII file', simple text option, from the Disc Manager [f1] in LocoScript 2) and using CHARKIT filed to group 0.

As an example, using the codes with an Epson FX80 dot matrix printer, to set enlarged characters type the following immediately before the line to be printed:

[EXTRA]#W[EXTRA]1

(that's a one, not a letter l). In normal terms this would be sent as CHR$(27);"W";CHR$(1). To cancel the code, type

[EXTRA]#W[EXTRA]0

(zero, not letter O). In practice the codes seem to work best when they are placed at the beginning of a line.

If you wish to send a code within a line it is necessary to insert the line spacing to zero using

[+]LS0

and [ENTER] then [RETURN] at the initial change point.

The next line starts with the relevant number of spaces to position the changed text in the correct place, followed by the actual changed text ending with a [RETURN].

The next line starts with the printer cancel code followed by line space normalisation with

[-]LS

followed by the relevant number of spaces to place the text at the end of altered text.

Trial and error may be necessary, and use of phrases can speed things up.

John Worthington,
Sale,
Cheshire

Make a date

As we all look at the calendar, here's the answer to our 'Make a Date' competition – a way of getting the date to print out in BASIC.

First, when you run up CP/M, insert a disc with **DATE.COM** on it (e.g. your CP/M copy disc). Suppose the date is Christmas Day and it's four in the afternoon. Type at the A>

DATE 12/25/89 16:00:00

ending with [RETURN]. You get the reply:

Strike key to set time

– so hit any key when it's the stroke of four.

From now on until you switch off or reset the PCW, it knows the date. In CP/M, you can get the date and time displayed by typing at the A>

DATE

ending with [RETURN].

But if you now go into BASIC you have to resort to a listing. Rena Smith of Ambrosden in Oxfordshire sent in what we thought was the best date program listing and wins a fiver.

Having first set the date in CP/M as above, you can access the date in BASIC as follows. Type in and save the listing below (see 'How to type in a listing' in this month's listings pages).

Once you've done this you can RUN the program at any time and it'll tell you the date. More useful is to incorporate the above lines in your own BASIC programs to give the date where necessary. But you always have to set the date using DATE as above when you start the machine up.

If you set the date just before midnight, the PCW will change the date correctly at zero hours. However, you can only set dates between Jan 1st 1978 and 31 Dec 1999, and the PCW takes no account of British Summer Time changes or jet-lag!

```
A>date 12/31/89 23:59:00

Strike key to set time

A>basic

Mallard-80  BASIC with Jetsam   Version 1.29
(c) Copyright 1984  Locomotive Software Ltd
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31597 free bytes

Ok
run "date
 1 Jan 1990
Ok
list
10 mon=12 : mon$="JanFebMarAprMayJunJulAugSepOctNovDec"
20 teld=PEEK(64500!)+(PEEK(64501!)*256)
30 year=INT(teld/365.25) : doy=teld-INT((year*365.25)+0.5)
40 year=year+1978: IF year/4=INT(year/4) THEN ly=1
50 DATA 334,304,273,243,212,181,151,120,90,59,31,0
60 READ eldy : IF doy<=(eldy+ly) THEN mon=mon-1 : GOTO 60
70 doy=doy-eldy : moy$=MID$(mon$,(mon*3)-2,3)
80 PRINT dow$;doy;moy$;year
Ok
```

The date, accessed from BASIC, as it might look over the beginning of the New Year. Note how CP/M actually does take account of the change of decade as midnight strikes!

That bending moment

My PCW8256 – which only cost me £50 second hand – works fine when it is first switched on but as the monitor warms up the top quarter of the screen gradually bends further and further over to the left. What can I do?
Lora Colver, Ilford, Essex

8000 PLUS: Hmm. Try fiddling with the 'Sincro horiz' knob at the back of the machine – it might make a difference. Otherwise you'll have to find a friendly TV engineer who can have a look at it.

Booted out

In October Tipoffs it is noted that you can auto-boot the spreadsheet in Mini Office by including the lines

OFFICE
<SDD;FL

in the PROFILE.SUB file (with the semicolon having the effect of pressing [EXIT]).

Previous tips have claimed this works similarly for the dateabase, but it doesn't! Why not?
HC Sykes, Market Rasen, Lincs

8000 Plus: You're quite right, it doesn't. Unfortunately some 'cleverly' (i.e. badly) written programs ignore or override some of the CP/M features they should work with, and there's no way round!

Nice touch

A hint for touch typists is to use the thumb to press the [+] and [-] keys, as these don't fall under any finger but are easy to find by sliding the thumb along the space bar.
Rev Andrew Warner, Gt Bookham, Surrey

8000 PLUS: I'm not convinced of this myself, but I'm sure we'll have more correspondence about the problems of touch typing on a computer keyboard, which is rather more complex than the typewriter most of us started on...

Screen test

Does anyone know how I can save the screen (or a section of it) to a suitable position in memory? I'd like to know how I can recall a section of screen after putting a pull-down menu over it.
C Black, Oxford

8000 PLUS: We published a BASIC listing which saves and recalls screens in issue 28 (January 1988). It only works on whole screens. But if anyone has a BASIC routine to save a portion of the screen, we'd be glad to hear.

Six of the best

Neil Wilson of Ossett wins £30 for sending these six tips. One or two have appeared before but bear another mention!

Join the select

When using LocoFile from the Disc Manager screen, don't use the 'Select new file' option to change datafiles. It is far easier to press [EXIT], select the new datafile with the cursors and call up LocoFile again by pressing **[f1]R[ENTER][ENTER].**

The 'select new file' option apparently insists on moving the Disc Manager's file cursor to the first group on drive A, even when there's no disc in the drive – usually a long way from your last datafile selection.

If you use LocoFile from within LocoScript the same problem occurs. Fortunately there is a way you can make your datafile instantly available for use. Before starting work on the document, 'Run LocoFile' on the required datafile and come straight out again. Now the next time 'Run LocoFile' is used from within LocoScript it will automatically call up this datafile.

Pressing A selects 'Abandon Edit'; S selects 'Save and Continue'; S then P selects 'Save and Print'. This works for any menu. That's why they're in capitals!

You can jump straight down to 'Automatic' on this menu by pressing [SHIFT] and down arrow

On the menu

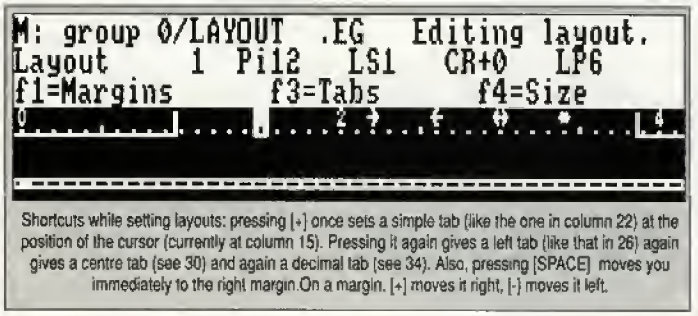
Pressing [SHIFT] and the down arrow in any LocoScript menu moves the cursor immediately to the bottom, [SHIFT] with the up arrow to the top.

This is useful in menus where you can't select by pressing the first letter (in which, for example,after pressing [EXIT] in a document you can jump straight away to 'Abandon Edit' just by pressing the letter A). Examples might be selecting 'Automatic merge' in 'Merge documents', choosing 'Print part of document' in the print menu and so on.

Layout on me

LocoScript 2's layout editor has a number of short cuts. You get into the layout editor while editing a document by pressing [f2] and leave it with [EXIT].

1. Pressing [+] while on either of the margins will move the margin to the right, and [-] to the left.



Shortcuts while setting layouts: pressing [+] once sets a simple tab (like the one in column 22) at the position of the cursor (currently at column 15). Pressing it again gives a left tab (like that in 26) again gives a centre tab (see 30) and again a decimal tab (see 34). Also, pressing [SPACE] moves you immediately to the right margin.On a margin, [+] moves it right, [-] moves it left.

2. Pressing [+] will place a simple tab at the position of the cursor; pressing it again makes it a right tab; again makes it a centre tab; again makes it a decimal tab; again makes it a simple tab, and so on.
3. Pressing [-] on a tab marker will delete it.
4. The [TAB] key will move you along to the next tab marker on the ruler line.
5. The [SPACE] key moves you to the right margin.

Unfortunately there seems no way to move automatically to the left margin!

IF line too long THEN...

When writing a BASIC program, lines like this can be difficult to read:

160 IF sex$="M" THEN x=0 ELSE IF sex$="F" THEN x=1 ELSE PRINT "Don't be silly":GOTO 150

but you can split them up making them easier to read by putting new lines with [ALT]J at appropriate places. You can move up and down the lines while editing using the up and down arrow keys

```
160 IF sex$="M" THEN x=0
ELSE IF sex$="F" THEN x=1
ELSE PRINT "Don't be silly":GOTO 150
Ok
```

Splitting up those lines using [ALT]J

User groups

To select a user group in CP/M (the equivalent of a group in LocoScript) just type the number followed by a colon, e.g.
12:
and [RETURN]. Add a drive if required, for example
8m:
[RETURN].

No tipping but pleading

When copying discs, always flip the write-protect tab on the source disc (i.e. the one you're copying from).

This stops you losing any data if you should put the wrong disc in the wrong drive when copying in a number of parts using DISCKIT or LocoScript, which ruins both discs pretty effectively!

Column bind

Q I wish to produce my domestic accounts in two columns – an IN column and OUT column, with totals worked out automatically, like this:

DATE	ITEM/ DETAILS	IN	OUT
1.10.89	Rates		148.00
2.10.89	Payment	120.00	
3.10.89	Materials		20.00
4.10.89	Tax rebate	11.50	
TOTALS		131.50	168.00

I want to record the in and outgoings as they come in and get the totals done automatically at the end of the month. Is there an easy way on my 9512?

Bernard Wilkie, Coulsdon, Surrey

8000 PLUS: *I'm sure some kind soul out there can knock up suitable LocoMail routine for you. A fiver to the best solution.*

Paper chase

Q When using continuous paper, a sheet is wasted between two documents if you have to rip off the first before printing the second, as the second needs a leading page.

If you begrudge this waste of paper, keep on your discs a few documents you always need – memo slips, compliment slips, small forms and so on. You can have several to a page.

Then you can print a page of these out as the last page of your first document. Tear off all but the last page. You thus have your first document intact and have left the sheet of memos and so on as the leading sheet for the second document. When you print this, you can rip off the leading sheet of memo slips, print another sheet of memo slips as the last sheet, and so on.

John Boyd, Ealing, West London

Mouse trap

Q Here's a tip for those trying to use the AMX mouse with their own programs.

The AMX mouse uses input ports A0 to A7, but only the first three are necessary to drive the mouse. The numbers returned from these ports correspond to changes in the mouse's position or the button state.

Port A0 is concerned with vertical movement; if the mouse is moved up, the value of the port is increased by 1, whereas if it is moved down, the value is increased by 16.

After 16 successive movements in one direction, the value returns to what it was the first time the mouse was moved that way. (If the value was

Compatibility problems

Q I have a large name and address list on an old database called DataGem. Is there any way I can use the data from this in another database such as LocoFile without having to re-type the whole lot?

Alan Wood, Epsom, Surrey

8000 PLUS: *DataGem was written in BASIC and so should store the names and addresses in a fairly recoverable way. The general method of getting any data from a database into LocoScript or LocoFile is as follows.*

Check through the manual to see if your database has an 'Export' or 'ASCII' option.

If it has – Masterfile, Mini Office Professional, Datastore II and so on do – you're laughing. Follow the manual to create an export file, or ASCII file, on a disc and call it say DATA.DBS.

If it hasn't, try making a mail merge file or something (you do this in Mini Office, for example) of this name with all the information you want for each name.

1. Run up LocoScript as usual. Put the data disc in the drive which holds the database file you want put into LocoScript. Create an empty document called say DATA.LS on the M drive in group 0.

2. In DATA.LS, select 'insert text' ([f1] in Loco 2, [f7] in Loco 1) and move the cursor over the file from the database that holds the names and addresses, DATA.DBS.

3. You should see the information being inserted into the new file. Depending on the way it came over – ASCII, mail merge, or just a straight data file – it will be in varying formats.

For example, you might have quote marks round each item of information, commas separating them, and a new line for each person; or each item might have no quotes, new lines separating each item, or whatever.

4. What you want for LocoFile is to have each item of information on a separate line and a page break between each person. Use the [EXCH] key to do the conversion.

For the first format, for example, go to the start of the document and convert all " marks to nothing automatically, then go back to the start of the document and convert all commas to [RETURN]s, then all [RETURN][RETURN]s to the new page marker, [ALT][RETURN], and so on.

5. When the new file is in the required format, save it and use it as the LocoFile data file.

Double checking

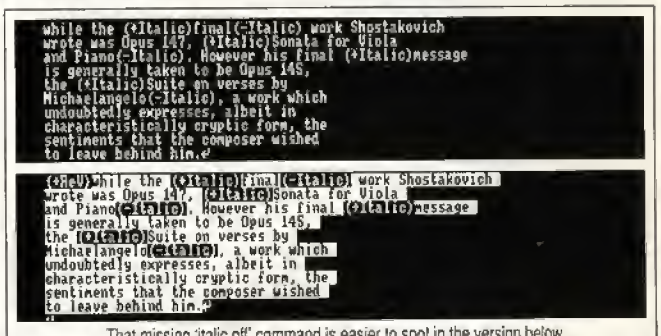
T It's easy to forget to cancel italic and bold commands. A **(+Italic)** that doesn't have that **(–Italic)** ruins the document!

But LocoScript users have an easy way to check the commands are cancelled. First make sure the (+Italic) and (–Italic) codes etc. are turned on (using [f8] 'Options' while editing, selecting 'Codes' with the [+] key). Then go to the start of the document and type

[+]RV

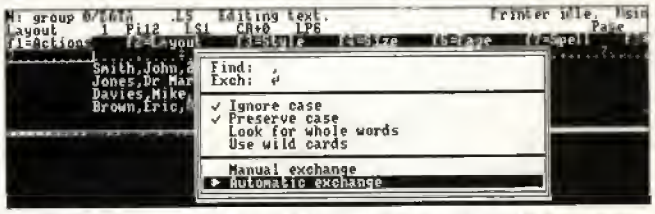
then [DOC] and all the text is put into reverse video. However, it doesn't reverse out the (+Italic) and (-Italic) commands themselves – making it easier to see if there's an uncancelled command somewhere.

Rev Andrew Warner, Gt Bookham, Surrey



That missing 'italic off' command is easier to spot in the version below

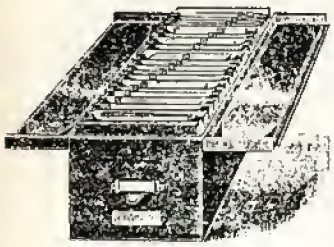
How your database data might look just after inserting it into LocoScript (stage 3)



EXCH putting one name to a line by changing commas to RETURNs (middle bit of stage 4)

Your database file can now be used in LocoMail or LocoFile (stage 5)

ENHANCED, GREATLY



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32, it would be 47 after 15 moves up, and one more would return it to 32). Port A1 is similar; a movement to the right causes an increase of 1, a movement to the left increase of 16. Port A2 returns the button state, which must be ANDed with 7 to give a number in the range 0 to 7 which tells you which buttons if any are pressed.

To demonstrate, here's a short BASIC listing. It prints a letter on the screen, changing the letter with button presses and moving the letter on screen as the mouse is moved around.

In a proper program you'd check that the letter is positioned within the screen, but these have been left out here because of space.

Users of the Kempston mouse can use a similar technique based on ports D0 to D4, which is described in full in the current 'Tipoffs collection' book.

AMX Mouse Button Values	
Left button only	6
Right button only	3
Middle button only	5
Left and Right buttons	2
Left and Middle buttons	4
Middle and Right buttons	1
All three buttons	0
No buttons	7

C Black,
Oxford

```
10 DEF FNat$(x,y)=CHR$(27)+"Y"+CHR$(32+y)+CHR$(32+x)
20 PRINT CHR$(27)"E"CHR$(27)"H"
30 chrnum%=0
40 DIM port%(3)
50 x=40:y=15
60 PRINT FNat$(x,y)CHR$(chrnum%)
70 GOSUB 100
80 GOTO 60
90 END
100 v=INP(&HA0) : h=INP(&HA1) : b=INP(&HA2) AND 7
110 IF v<>port%(1) THEN PRINT FNat$(x,y)" "
120 IF ABS (port%(1)-v) < 16 THEN y=y-1 ELSE y=y+1
130 port%(1)=v
140IF h<>port%(2) THEN PRINT FNat$(x,y)" "
150IF ABS (port%(2)-h) < 16 THEN x=x+1 ELSE x=x-1
160 port%(2)=h
170 IF b<>port%(3) THEN chrnum%=b+65 : port%(3)=b
180 RETURN
```

Incredible but true

Q I am at a loss in resolving this fault printing documents, which sometimes come out not lined up properly. I have replaced the keyboard and monitor under guarantee, my PCW is fitted with a surge protector. I shall be exchanging the complete system on guarantee including the program discs. Could it be a virus?
Clive Woodrow,
Southampton

8000 PLUS: *LocoScript is always aligned Before you exchange anything else, have look at the document. I bet you're trying to align everything by inserting spaces. In the first version, you're using 12 pitch so a space equals exactly one character, meaning everything lines up on screen and printout.*

In the second, you're using proportional spacing, in which all the characters have different widths on printout – so don't align. However, because of screen limitations, they all appear identical widths, and therefore line up, on screen.

*The easy answer is to go to the top of the offending document and set it back to 12 pitch by typing **[+]P12** at the start. Now when you print out it'll be OK.*

However, the proper way to line things up is to use tabs – then it doesn't matter if you're using proportional spacing. Suppose you want something aligned at column 56. At the start of the document, press [f2] and select 'Change layout'. Move the cursor to column 56 and press [+]. [EXIT] to the main document. Now, when you press [TAB] you'll automatically be positioned at column 56, whatever the pitch, and any items with a tab in front of them will all line up nicely on printout.

The trouble with the current virus scam is that people tend to blame everything on viruses. They just don't do things like this: they destroy data or corrupt files or discs, but none has ever been found on the PCW. The chances of a 'living' virus are really non-existant.

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	Celery	0.48
	Avocados	£0.49 each.
FRUIT:	Satsumers	£0.64/lb

If you find this happening to your documents, don't blame LocoScript!

Odd tip

Q LocoScript users have no easy way to print out odd and even pages separately (thus allowing both sides of the paper to be used when printing out on continuous paper wth the resultng document coming out 'book fashion').

But you can achieve the effect as follows.

1. Go to the start of the document by pressing **[ALT][SHIFT][DOC]**.

2. Press **[COPY]** and then **[PAGE]** and then **[COPY]** again.

3. Save page 1 as block 1 by pressing 1.

4. Repeat stages 2-3 until all the pages are saved under the same numbered block. A document of more than 10 pages will have to be done in ten page chunks as there are only 10 blocks available.

5. **[EXIT]** the current document and return to the disc manager.

6. Create a new document whose names ends in **.ODD**

7. **[PASTE]** in pages 1, 3, 5 etc. by pressing **[PASTE]1[PASTE]3** etc.

8. **[EXIT]** to the disc manager, saving of course, and create a document whose name ends in **.EVN**, into which are pasted pages 2, 4, 6 etc.

9. **[EXIT]** and print out the **.ODD** file as normal.

10. When finished, reverse the paper in the printer and print out the **.EVN** file so that the first page of the **.EVN** file (which is page 2 of the real document) goes on the back of the first page of the **.ODD** file (page 1 of the real document).

The only problem is with page numbers, which have to be put in manually.
PE Tew,
Newark,
Notts

8000 PLUS: *Users of the amazingly versatile Protext word processor already have the abiility to print just odd or even pages automatically.*

The command ensures that only the even pages from then on are printed.

Similarly , the command prints just the odd ones. You can print the document with the first command at the top. To achieve this feat you will have to reverse the paper, replace the first command by the second, and print again.

Your pages are all numbered correctly for you of course.

You can even make sure that the next new page in any document will start on an even (or odd if you would prefer it) page – in the case where all your chapters are all to start on right hand pages for example.

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The Good Software File Up Date...

These pages provide a guide to the best software around for the Amstrad PCW. Published in three monthly parts, this time it's the turn of Spreadsheets, Games and Graphics to face the ultimate test. We've set out to test every piece of software we could lay our hands on, and to give you enough information to decide which program is the one you might be looking for.

The selection isn't comprehensive, but the software listed here represents what we think is the best of that currently available. As well as a brief summary of what they do, there are the main Plus and Minus points for each program - Pluses have a ▲ by them, Minuses a ▼.

Most of the packages mentioned throughout this guide should run on all three models of the PCW - unless, of course, we have stated otherwise.

Spreadsheets

If a database replaces an address book, then a spreadsheet replaces the back of an old envelope. It is really an electronic piece of paper which allows you to jot down numbers, juggle them around and analyse the cost benefits of a situation. Vital for businesses, spreadsheets can be useful to home users too: if you want a bank loan you will find that showing your bank manager a spreadsheet print-out of your living expenses answers a lot of questions!

A typical spreadsheet has a grid of rows and columns. This grid forms a screenful of cells identified by their column and row numbers, e.g. A3, K36 etc. Each cell can contain a simple number, some text to make the page easier to read, or a formula telling the spreadsheet to work out a number using values from elsewhere. The power of spreadsheets is in this last category, formulae. You can make a cell's value depend on the value of cells above it, or to the left of it, and this value is then automatically updated if changes are made to the other cells.

So how do you choose between the various spreadsheets? One difference is sheet size, i.e. the number of cells you are allowed to work with. You'll need a few hundred for home use, and 1000 or more for business use. Another area is the range of formulae that you can use – all spreadsheets allow simple column and row totalling, but with some you can get complex statistical analyses too. As with all software, think very carefully what you will need before choosing.

Mini Office Professional Plus

£49.95 • Database Software • 0625 878888

Mini Office is a suite of five integrated programs – database, word processor, graphics module, comms package, and a very good spreadsheet. Broadly similar to SuperCalc in operation with usual features of auto or manual recalculation, replicating of rows/columns, powerful range of arithmetic functions etc. Printout is a strong point - rows/columns can be put into italic/bold etc, and prints draft, NLQ or even sideways! Can't sort and can't just save data or structure of a spreadsheet, but maximum size of spreadsheet is claimed to be 320k. You can use the data from a spreadsheet in the graphics module directly. The manual is, however, pretty useless.

PLUSES • MINUSES

- ▲ Good, full-featured easy to use spreadsheet
- ▲ Prints in draft, NLQ or even sideways
- ▲ Maximum size of spreadsheet 320k
- ▲ Can transfer data directly to graphics module
- ▲ Can drive 24-pin printouts
- ▼ 'Save' options not as versatile as SuperCalc

Cracker turbo

£49.95 • Paperback Software • 0245 265017

A spreadsheet designed with advanced calculating power firmly in mind, including statistical functions. The screen layout is totally defined by the user, and cell value calculations can almost be full programs, e.g DO ... WHILE. It might prove too complex if all you want is simple spreadsheet operations. The screen messages are very helpful though. Turbo is claimed to be faster than Cracker 2 though sometimes isn't noticeably so.

Powerful

PLUSES • MINUSES

- ▲ Can cope with very complex formulae
- ▲ Flexible screen format defined by the user
- ▲ On-screen prompts are very clear
- ▲ Graphs/charts can be automatically produced
- ▼ Documentation is large, but obscure and confusing
- ▼ You've got to do a lot of work just to get started
- ▼ Very complex for quick, simple applications
- ▼ Needs some programming skills to get the most out of it
- ▼ Free workspace is on the small side (17k) although memory is used efficiently

SuperCalc 2

£49.95 • Amsoft/Sorcim • 091 567 3395

The best selling spreadsheet, officially endorsed by Amstrad. SuperCalc 2 is broadly similar to ScratchPad Plus , and at least as effective, but it has a smaller workspace and is less flexible about the allowed spreadsheet dimensions. You can store sequences of commands for repetitive calculations.

Best general buy

PLUSES • MINUSES

- ▲ Excellent manual – sections for beginners and experts.
- ▲ Stores commands to run from files
- ▲ "Data Interchanger" allows you to transfer spreadsheet data to other applications
- ▲ Comprehensive range of calculation functions available
- ▲ Screen can be split into 2 windows
- ▼ Spreadsheet is limited by memory size
- ▼ No graphical output facilities

First Calc

£29.95 • Minerva Systems • 0392 437756

Touted as a quick and simple to use program for the beginner, this is nevertheless quite a powerful spreedsheet, with a large capacity, ability to replicate formulae, export etc. Really it's not vastly more user-friendly then the rest but a good value package all the same.

Easy to use

PLUSES • MINUSES

- ▲ A lot of program for the money
- ▲ Good tutorials with demo files
- ▲ Simple to use but reasonably sophisticated
- ▼ Not much easier to use than more powerful packages
- ▼ Program is limited by the memory capacity of the PCW (300 - 400 filled cells)

Pocket CalcStar

£39.95 • Davis Rubin Associates • 0386 853610

A fairly traditional spreadsheet but with a few surprising features. It's not particularly large or fast, but is attractively priced and has all the basic functions. Can form part of an integrated system with the other Pocket products. A safe buy for the first-time user, and the documentation is up to the usual high MicroPro standards.

PLUSES • MINUSES

- ▲ Good range of mathematical calculation functions.
- ▲ Good documentation – sections for beginners and reference.
- ▲ You can preset a course of cells to visit, for form filling.
- ▲ Can be integrated with other Pocket products, eg ReportStar
- ▼ Screen size is very small – 10-15 spreadsheet rows,.
- ▼ No auto-recalculate facility
- ▼ It's not very fast
- ▼ You can't type heading text etc. over adjacent columns

Graphics

You can use a graphics package to create and store diagrams and drawings on disc, to be amended, adjusted or printed out at will.

There are three main types of graphics package: art, technical drawing and

graph plotting programs. In art packages the emphasis is on designs and pictures, with freehand drawing facilities, a selection of pretty text fonts and a variety of patterns to fill areas with. These are made much more effective and easier to use if you have a mouse.

Technical drawing packages concentrate on shapes, such as squares and polygons, lines and labels. Finally graph plotters will take your data and turn them into bar charts, pie charts and so on. 9512 owners will have to buy a dot matrix printer to do all this, of course.

Lightpen/ Mouse art

£79.95 or £129.95 • Electric Studio • 0462 834864

Ostensibly you are buying a piece of hardware — a light pen, or a mouse, that can be used with many PCW graphics programs, like DR Draw. In practice, its main use is with the software that comes with it, a very good picture drawing package. You can freehand draw, get airbrush effects, create polygons and circles, and move blocks of pixels. Great fun.

PLUSES - MINUSES

- ▲ Light pen hardware is a simple plug-in module
- ▲ Can use freehand pen or cursor keys for accuracy
- ▲ Menu selections are easy to understand
- ▲ Full range of functions for area filling, shading and spraying
- ▲ Blocks of pixels can be moved and copied
- ▼ You would need to know your way around CP/M to use the lightpen itself with other graphics programs
- ▼ Items on the screen are purely pixels, not distinct elements
- ▼ No positioning of items by numeric co-ordinates for accuracy.

Master Paint

£19.95 • Database Software• 0625 878888

A WIMP environment graphics package (windows, icons, menus, and pointer) which will run with Kempston, AMX or Electric Studio mice. Usual facilities for drawing curved or straight lines, polygons, boxes, circles and ellipses, and a host of 'fill' patters. 'Undo' function and eraser facility, plus the ability to zoom in on a part of the picture.

PLUSES - MINUSES

- ▲ WIMP environment makes it easy to use
- ▲ Zoom function lets you fine-tune your pictures
- ▲ Good range of effects
- ▲ Undo and erase facilities
- ▼ Text fonts are boring
- ▼ Can't move large blocks with the copy function

MasterScan

£69.95 • Database Software• 0625 878888

A device which clips on to your printer head and scans pictures, sending the digitised result to disc. You can then use the pictures in desktop publications or in other graphics packages, such as Master Paint. Very useful for newsletter production but the claims for Master Scan as a low-cost fax machine are grandiose - the quality of scanned text is poor if the text is anything less than headline size.

PLUSES - MINUSES

Powerful

- ▲ Simple method of getting good digitised graphics
- ▲ Suitable for all desktop publishing programs
- ▲ Contrast control useful
- ▼ Quality of scanned text is bad – no good for faxes
- ▼ Problems with illustrations containing lots of grey

Postafont

£9.95 • Independent User Group • 0242 224340

It's easy to ring the changes with the five fonts provided on this poster program because you can have either solid or hollow characters in one of six patterns. Very good value for money but best for the occasional poster producer.

PLUSES - MINUSES

- ▲ Its really good value for money.
- ▲ You can freely mix fonts and styles
- ▼ The print commands are contained in a file which you have to create yourself.
- ▼ No warning if the poster is too big for the paper.

Lightning BASIC

£24.95 • CP Software • 0993 823463

A very clever add-on to normal Basic which works on three levels. The first contains all the everyday commands, whilst the second and third levels are used for designing icons, characters and sprites. There is something in it or everyone, whether an experienced Basic programmer or a beginner.

PLUSES - MINUSES

Powerful

- ▲ Simple and easy to use
- ▲ Makes simple Basic programs look really professional
- ▲ Good fun to use
- ▼ Documentation can be unclear
- ▼ Printed output is coarse draft quality
- ▼ Can only cope with simple graphics

Complement Fonts & Borders

£12.50 • Dragonfly Designs • N/A

Although it can be used with all the main DTP packages, this latest complement disc was designed to work alongside Stop Press. The 11 fonts supplied on the disc show consistent good design and artistic flair and are easily loaded.

PLUSES - MINUSES

- ▲ The fonts provide a very professional finish.
- ▲ It is possible to rotate and reverse elements.
- ▲ Very user-friendly.
- ▼ Setting up borders tends to be difficult and time-consuming.
- ▼ Printed output could be better (but it is still above average).

Signwriter

£29.95 • Wight Scientific • 01 858 2699

Offers the widest range of features of any of the poster printing programs. Signwriter provides a range of 20 fonts, some of them very imaginative. Ideal for posters.

PLUSES -MINUSES

- ▲ You can redesign fonts and design your own symbols.
- ▲ A wide range of interesting fonts is available
- ▼ Not very user-friendly.
- ▼ Font design is slow.

Stop Press

£49.95 • AMS • 0625 878888

Though touted as a DTP program, Stop Press is an excellent graphics package. Can present data in the form of graphs, pie charts etc., and has the usual range of facilities to draw and fill triangles, boxes and so on plus a very good 'zoom' option which lets you examine the effect of changes in great detail.

PLUSES - MINUSES

Best general buy

- ▲ Good graph drawing facilities
- ▲ Can design your own area fill patterns
- ▲ Good range of clip-art, which you can modify if you wish
- ▲ Can superimpose one image on another
- ▲ Works with AMX and Kempston mice
- ▲ Is also a good DTP package
- ▼ Undoing wrongly placed text is difficult

AYE PLUS

£24.95 • CP Software • 0993 823463

The full title is 'All you ever wanted to know about graphics, the universe and everything on PCW 8256/8512 ... but were afraid to ask PLUS'. Phew. A wide range of little programs to do graphic things on the PCW like smooth scrolling, defining windows, moving sprites around. The programs are written in assembler, with the source code provided if you want to see how to program them for yourself and adapt the routines.

PLUSES - MINUSES

- ▲ Wide range of useful functions
- ▲ Can be used from BASIC, machine code, or other language
- ▲ The assembler source code is supplied
- ▲ Inexpensive
- ▲ Good manual
- ▲ CP don't mind you using their routines in programs you sell
- ▼ A bit long-winded to use from BASIC
- ▼ No easy way of loading just the routines you want

VIDI PCW

£79.95 • Rombo Productions • 0506 414631

A very similar package to the Electric Studio digitiser; not much to choose between the two. Rombo's works with the Fleet Street Editor, Electric Studio's with Newsdesk International.

PLUSES - MINUSES

Easy to use

- ▲ Text can be inserted from within the program
- ▲ 16 levels of shading
- ▲ Can print images to screen in defined order and time apart.
- ▼ Unhelpful manual

Video Digitiser

£99.95 • Electric Studio • 0462 834864

A black box which plugs onto the expansion port at the back of the PCW, into which you put a video camera or video recorder. It will then 'digitise' the picture it receives and display it on the screen. The result can be used as a normal graphic in any of the desktop publishing packages and can be edited, cut, etc.

PLUSES - MINUSES

- ▲ Automatically picks a good contrast level for the display
- ▲ Can store pictures for Light Pen or Mouse to work on later
- ▲ Can print out on a full A4 page
- ▼ Can't take simple TV signals – video only
- ▼ When used in a desktop publiscation, won't be as good as screened photographs

Games

Academy (Tau Ceti II)

£19.95 • CRL (01 533 2918) • 8000s only

The sequel to Tau Ceti. To qualify as an advanced skimmer pilot, you must complete successfully 20 missions. Blast enemy craft with your personally designed skimmer.

GRAPHICS	4/5	ADDICTIVENESS	5/5
LASTING APPEAL	4/5	VALUE VERDICT	5/5

Armageddon man

£19.99 • Martech (0323 768456) • 8000s only

As Supreme Commander and world leader you have to prevent nuclear war from breaking out by preserving good diplomatic relations between the 16 member countries of the UNN. Nip conflict in the bud by providing sufficient food and resources.

GRAPHICS	4/5	ADDICTIVENESS	4/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

Backgammon

£15.95 • CP Software (0993 823463) • All PCWs

A fairly good implementation of the gambling board-game.

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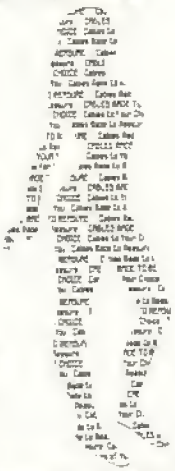

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GOOD SOFTWARE GUIDE

Playing speed is easily alterable and is totally unrelated to the games level of skill control.

RANGE OF FEATURES	4/5	STRENGTH OF PLAY	3/5
GRAPHICS	4/5	DOCUMENTATION	3/5

Batman

£14.95 • Ocean (061-832 6633) • 8000s only

3-D animated graphics as you guide Batman around Gotham City, looking for hidden parts of the Batcraft. Good range of hazards, and even a tune!

GRAPHICS	5/5	ADDICTIVENESS	5/5
LASTING APPEAL	4/5	VALUE VERDICT	5/5

Blackstar

£14.95 • CRL (01-533 2918) • 8000s only

A traditional text adventure with large playing area. You explore Castle Blackstar in search of a power orb.

ATMOSPHERE	4/5	INTERACTION	2/5
CHALLENGE	4/5	VALUE VERDICT	4/5

Bounder

£13.95 • Gremlin (0742 753423) • 8000s only

A graphics bouncing-ball game . You have to direct the ball over a treacherous network of squares & hexagons. Persevere – or use the cheat mode!

GRAPHICS	4/5	ADDICTIVENESS	3/5
LASTING APPEAL	3/5	VALUE VERDICT	4/5

Brian Clough's Fortunes

£17.95 • CDS (0302 21134) • All PCWs

A cross between Monopoly and Football Manager, combining board and PCW. Go for league and cup success – but keep the bank manager happy too!

GRAPHICS	2/5	ADDICTIVENESS	4/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

Bridge Player Galactica 2150

£19.95 • CP Software (0993 823463) • All PCWs

The upgraded Bridge Player 2000. Excellent Tutor mode with hands written by Nichiola Gardener of the London Bridge School. Retains strong play.

GRAPHICS	3/5	STRENGTH OF PLAY	4/5
LASTING APPEAL	4/5	VALUE VERDICT	3/5

Catch 23

£19.99 • Martech (0323 768456) • All PCWs

A game of exploration on an inhospitable island which has been taken over by the military. Your task is to locate the 'most secret military complex on earth' and escape with the design of their most deadly weapon.

GRAPHICS	4/5	ADDICTIVENESS	4/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

Classic Games

£19.95 • CP Software (0993 823463) • All PCWs

A compilation of classic 'thinking' games on one disc: Clock Chess, Bridge Player, Backgammon and Draughts. Excellent value for money.

Clock Chess 89

£19.95 • CP Software (0993 823463) • All PCWs

One of the better PCW chess programs. You can alter the level of play by specifying a time limit. Capable of very strong play and the 3D graphics are excellent.

GRAPHICS	4/5	STRENGTH OF PLAY	5/5
RANGE OF FEATURES	5/5	VALUE VERDICT	5/5

Colossus Chess 4.0

£15.95 • CDS Software (0302 21134) • All PCWs

A very strong chess game which manages to use time which you spend thinking to plan its strategy. Bags of features, including blindfold games.

GRAPHICS	3/5	STRENGTH OF PLAY	3/5
LASTING APPEAL	4/5	VALUE VERDICT	3/5

Corruption

£24.95 • Rainbird (0666 504 326) • All PCWs

Takes you into the heady world of stocks and shares where making money is what it's all about. There's something rotten in the state of Scott Electronics and it's up to you to find out what.

ATMOSPHERE	4/5	INTERACTION	5/5
CHALLENGE	4/5	VALUE VERDICT	5/5

Cyrus II Chess

£15.95 • Amsoft (0277 230222) • All PCWs

Chess game with a stunningly detailed 3-D display. The play is quite strong, with several handy features like allowing you to take back a move.

GRAPHICS	5/5	STRENGTH OF PLAY	3/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

Double t Patience

£17.95 • Thurston Techniques (0395 277496) • All PCWs

Six well-known card games (from Poker Patience to Pairs) to be played either alone or against the computer.

GRAPHICS	2/5	ADDICTIVENESS	5/5
LASTING APPEAL	4/5	VALUE VERDICT	3/5

Fish

£24.99 • Rainbird (0666 504 326) • All PCWs

The underwater world of Hydropolis is under threat from a gang of interdimensional anarchists. They've stolen a focus wheel and dismantled it: your job is to get it back. Excellent graphics.

ATMOSPHERE	5/5	INTERACTION	4/5
CHALLENGE	4/5	VALUE VERDICT	5/5

Gnome Ranger

£14.95 • Level 9 (0344 487597) • All PCWs

You follow the adventures of Ingrid Bottomlow, the intrepid gnome, through a fairy tale landscape full of compelling puzzles. Humorous and rather quaint.

ATMOSPHERE	3/5	INTERACTION	3/5
CHALLENGE	3/5	VALUE VERDICT	4/5

Guild of Thieves

£24.95 • Rainbird (0666 504 326) • 8000s only

To join the select Guild of Thieves in Kerovnia, you first have to show your worth by fleecing an island of all its treasures. An excellent adventure!

ATMOSPHERE	5/5	INTERACTION	4/5
CHALLENGE	4/5	VALUE VERDICT	5/5

Head Coach

£15.95 • Coda (01-789 9551) • All PCWs

You coach an American Football team, picking players and deciding tactics against real NFL teams and players. Incredibly detailed simulation – a must for NFL fans!

ATMOSPHERE	4/5	INTERACTION	5/5
CHALLENGE	4/5	VALUE VERDICT	4/5

Head Over Heels

£14.95 • Ocean (061 832 6633) • 8000s only

A superlative, compulsive 3D arcade adventure where you control either Head or Heels. Escape from Castle Blacktooth and free the Empire's enslaved planets.

GRAPHICS	5/5	ADDICTIVENESS	5/5
LASTING APPEAL	5/5	VALUE VERDICT	5/5

Ingrid's Back

£19.95 • Level 9 (0344 487597) • All PCWs

Sequel to Gnome Ranger in which Ingrid returns to Little Moaning to find it under threat from Jasper Quickbuck who wants to replace it with a yuppie estate. Adventure in 3 parts.

ATMOSPHERE	4/5	INTERACTION	4/5
CHALLENGE	5/5	VALUE VERDICT	4/5

Jinxster

£24.95 • Rainbird (0666 504326) • All PCWs

This one's all about saving the civilisation of a place call Aquitania from the wicked Green Witches. All you have to do is find and reassemble a magic bracelet and redirect its errant powers. A very atmospheric game.

ATMOSPHERE	5/5	INTERACTION	4/5
CHALLENGE	5/5	VALUE VERDICT	4/5

Knightorc

£19.95 • Level 9 (01 631 5373) • All PCWs

You are an orc in this typical Level 9 adventure by the name of Gridleguts. An addictive game with lots of action, plenty to explore and mind-bending puzzles.

ATMOSPHERE	5/5	INTERACTION	5/5
CHALLENGE	5/5	VALUE VERDICT	5 /5

Lancelot

£14.95 • Mandarin/Level 9 (0625 878888) All PCWs

A game in three parts which recounts the adventures of Lancelot.. Manufacturers have vividly created an Arthurian world in which points are awarded for displays of chivalry, valour or benevolence. The game permits a full range of powerful commands.

ATMOSPHERE	5/5	INTERACTION	5/5
CHALLENGE	4/5	VALUE VERDICT	5/5

Lurking Horror

£24.95 • Activision (01-431 1101/2992) • All PCWs

Something nasty is lurking down in the bowels of the George Edwards Institute of Technology – find it before it finds you! Another great game from Infocom.

ATMOSPHERE	4/5	INTERACTION	4/5

CHALLENGE	3/5	VALUE VERDICT	4/5

Matchday II

£14.95 • Ocean (061 832 6633)• All PCWs

Excellent football simulation game with superb graphics. Tackling and jumping ,volleying and heading etc. Play against the computer or against a friend.

GRAPHICS	5/5	ADDICTIVENESS	5/5
LASTING APPEAL	5/5	VALUEVERDICT	5/5

Mindfighter

£24.99 • Abstract Concepts/Activision (01 431 1101) • 8000s only

An adventure game set in post-holocaust Southampton. Hero is a psychic 11 year old boy who can change himself into all different kinds of animals, and who has accidentally projected himself into the future. It's up to him to change the course of events and prevent nuclear war.

ATMOSPHERE	5/5	INTERACTION	3/5
CHALLENGE	5/5	VALUE VERDICT	4/5

The Pawn

£24.95 • Rainbird (0666 504 326) • All PCWs

An excellent adventure with dozens of superb screen illustrations, zany characters and a host of baffling puzzles. Will keep you entranced for hours.

ATMOSPHERE	5/5	INTERACTION	5/5
CHALLENGE	5/5	VALUE VERDICT	5/5

Return to Doom

£12.95 • Topologika (0733 244682) • All PCWs

Sequel to Countdown to Doom; you're back on the planet Doomawangera again to track down the ambassador Regina who has been kidnapped by some very unpleasant robots. Another text-only adventure game.

ATMOSPHERE	3/5	INTERACTION	2/5
CHALLENGE	4/5	VALUE VERDICT	4/5

Silicon Dreams

£19.95 • Rainbird (0666 504 326) • All PCWs

A trilogy of intriguing adventure games. You are secret agent Kim Kimberley saving Snowball 9 from almost certain doom! With a humorous novella.

ATMOSPHERE	4/5	INTERACTION	4/5
CHALLENGE	4/5	VALUE VERDICT	4/5

Scrabble

£19.95 • Virgin Leisure (01-727 8070) • All PCWs

Excellent implementation of the famous game. 1 to 4 people can play the computer, which knows a fair few obscure words. Good graphical display. Eight levels of difficulty, and the top level scores 350 or so regularly, so you have to be on top form!

GRAPHICS	4/5	ADDICTIVENESS	3/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

Sorceror

£24.95 • Activision (01-431 1101/2992) • All PCWs

Enter the world of necromancy and sorcery courtesy of another intriguing and mind bending adventure game from Infocom.You have to find out the correct spells which will locate your missing master, Belboz.

ATMOSPHERE	5/5	INTERACTION	4/5
CHALLENGE	4/5	VALUE VERDICT	4/5

Starglider

£24.95 • Rainbird (0666 504 326) • 8000s only

A sophisticated shoot-'em-up with 3D vector graphics and a dose of strategy too. Your task is to save Novenia, helped by a complex playing guide.

GRAPHICS	5/5	ADDICTIVENESS	4/5
LASTING APPEAL	4/5	VALUE VERDICT	5/5

Stationfall

£24.95 • Activision (01-431 1101/2992) • All PCWs

Sequel to Planetfall. You explore a space station with your chums Floyd and the philosophical robot Plato. Usual Infocom standards –a great sci-fi adventure, a mix of 2001 and Star Trek!

ATMOSPHERE	5/5	INTERACTION	4/5
CHALLENGE	5/5	VALUE VERDICT	4/5

Steve Davis Snooker

£14.95 • CDS (0302 21134) • All PCWs

Surprisingly realistic simulation of both pool and snooker games - not as easy as it looks either! Foul shots, breaks and allows for spin, side, strength of shot. Good value, despite all the balls being greens!

GRAPHICS	2/5	ADDICTIVENESS	3/5
LASTING APPEAL	3/5	VALUE VERDICT	3/5

Strike Force Harrier

£19.95 • Mirrorsoft (01-377 4645) • 8000s only

A combat simulation of a Hawker Harrier, designed in conjunction with British Aerospace. Very detailed and realistic but you'll need to put in a few hours with the manual to get off the ground.

GRAPHICS	4/5	ADDICTIVENESS	3/5
LASTING APPEAL	3/5	VALUE VERDICT	3/5

Time and Magik

£14.95 • Mandarin Software (0625 879920) • All PCWs

An excellent trilogy of time travel adventure which can be played in any order. Your task is to protect the history of the world from the destructive timelords –another very atmospheric game.

ATMOSPHERE	5/5	INTERACTION	4/5
CHALLENGE	5/5	VALUE VERDICT	5/5

Tetris

£19.99• Mirrorsoft (01-377 4837) • 8000s only

You fit together bricks of various shapes that drop out of the sky at the bottom of the screen. The better the fit, the higher your score. One of those ridiculously simple ideas which is very addictive!

GRAPHICS	3/5	ADDICTIVENESS	5/5
LASTING APPEAL	4/5	VALUE VERDICT	5/5

Tomahawk

£19.95 • Digital Int. (0276 684959) • All PCWs

A sophisticated Apache helicopter flight simulator. Impressive cockpit view graphics as you engage in combat missions – can be used with a joystick too.

GRAPHICS	4/5	ADDICTIVENESS	3/5
LASTING APPEAL	4/5	VALUE VERDICT	4/5

World of soccer

£15.95 • Coda (01 789 9551) • All PCWs

A soccer management simulation game; you select squads of players for your international team and guid e them through the European and World Cups. Gives a good insight into the kind of strategic thinking required.

ATMOSPHERE	4/5	INTERACTION	3/5
CHALLENGE	4/5	VALUE VERDICT	4/5

NEXT MONTH

The guide continues with the categories of SPREADSHEETS, GRAPHICS and GAMES. The month after that will cover WORD PROCESSORS, ACCOUNTS/PAYROLL, UTILITY and DTP software, and the month after that it's back to this month's topics.

Our intention is to keep publishing the three parts of the guide in rotation, updating it each month to include all new products. If you would like to see other sections of the guide, back issues of 8000 Plus are available at £1.75 each.

Meanwhile, if you are aware of any significant omissions or errors in the File as published, please let us know. We intend to maintain it as THE authoritative guide to PCW software.

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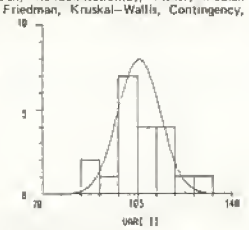

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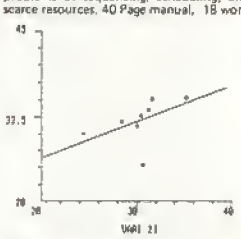

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SEE ORDER FORM ON PAGE 92

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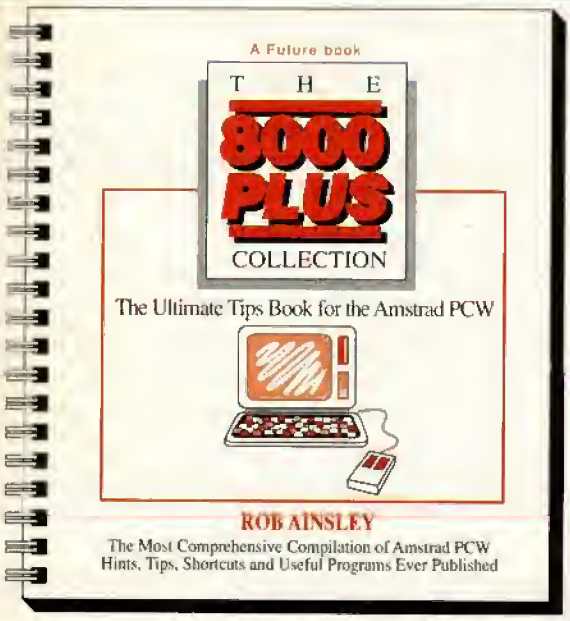

The book is based on the collected tipoffs in **8000 Plus** from issue 1 to the present day and covers every possible facet of PCW use. But it's not just a reprint — every item has been rewritten, re-illustrated and updated where necessary. Plus a whole host of new tips have been added to make this book the essential guide to PCW use.

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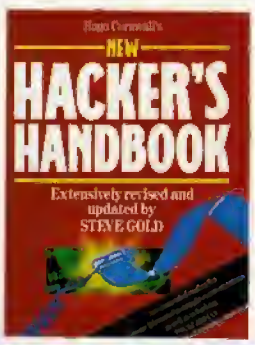

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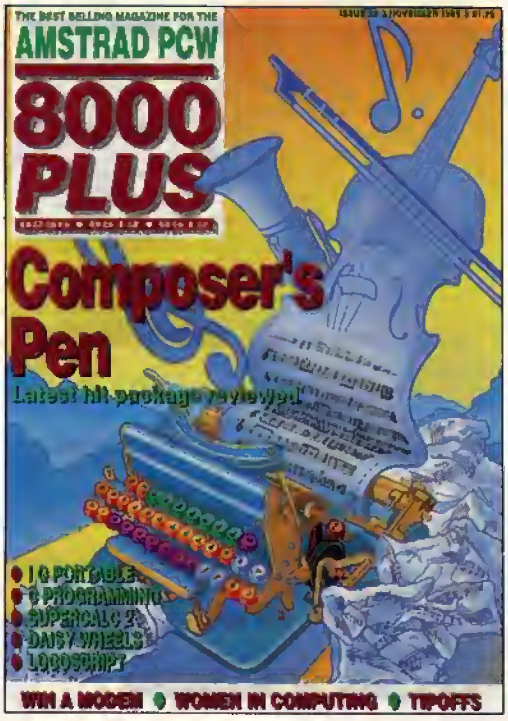

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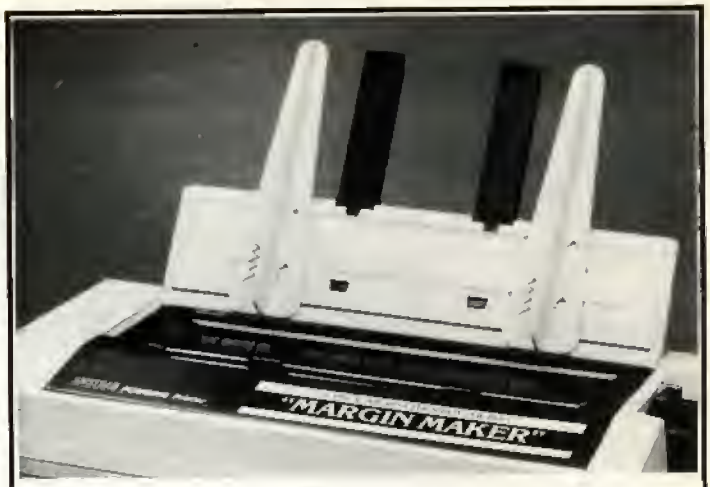

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POST SCRIPT

Views to air? Observations to share? These are the pages where you have your say.

The first topics up for discussion in 1990 are Hebrew word processors, embroiderers' guilds, training courses and the latest feedback on the Tips Collection.

If you've got anything to say that might be of interest to the rest of us about PCWdom, 8000 Plus – or anything else for that matter – please send your letters to Postscript, 8000 Plus, Beauford Court, 30 Monmouth Street, Bath, Avon BA1 2AP.

Don't adjust your sets

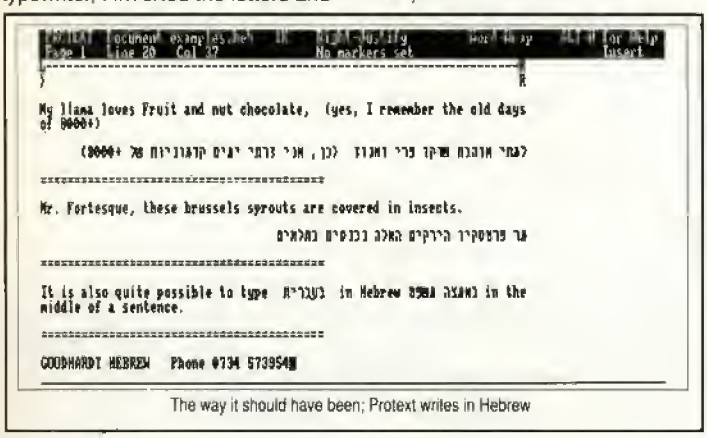
I have just read Ian Goodhardt's article 'Biblical Learning' in your December issue. While the screen print of Protext Hebrew is unreadable to a Hebrew reader, it would be interesting to see the printed result from this input. There is a Hebrew version of Word Star suitable for the PCW available which I have occasionally used for two years on my 8512. I have just checked and find that it is still available from Elyashim, POB 8691 Haifa, 31086 Israel.The telephone number is 04 523601. The instruction book supplied is in Hebrew, but they say that a normal Word Star instruction booklet can be used. The price quoted is US $150.

Incidentally, I also designed for my own use a Hebrew font for use in Stop Press. In order to write from right to left using the normal keys as used on a Hebrew typewriter, I inverted the letters and at the end of each line I reverse it. (It's fine for posters and large type use). I have not yet found a way of entering the Word Star Hebrew input into Stop Press.

I must tell you that it's great that you have introduced overseas airmail availability. It makes one feel up to the minute to receive 8000 Plus before the beginning of the month instead of two months late.

Joe Isaacs
Netanya
Israel

8000 PLUS: Thanks for the information, Joe. Back to our screenshot of Hebrew Protext supposedly in action (see December issue, page 56) before any more of our Hebrew-writing readers write in. There's one very good reason as to why it's 'unreadable' as you so restrainedly put it: we printed the wrong one. Laugh? We thought we'd never start. It should have looked like the one below. There. Ian Goodhardt wasn't really trying to pull off some elaborate and premature April Fools joke.



The way it should have been; Protext writes in Hebrew

Model gaff

I recently purchased a game from one of the advertisers in the November issue, A to Z Computer Services (page 61). The game was PCW Challenge and it was only when I received it that I realised it was only for the PCW 8256 and 8512 and I have a PCW 9512. I rang them up and they told me I would have to pay a handling fee of 25%. And the thing I am complaining about is that nowhere in the advertisement did they mention that it was not suitable for the 9512. I was wondering if advertisers had to mention important facts like this instead of using it to make a couple of pounds off people by charging a handling fee.

They also told me that it was my fault for not telling them when I was ordering, which I do not think is very fair. It was my mum who ordered it for me, and she had no idea that there was more than one kind of PCW computer. So I was hoping that you or someone else on the team could look into the matter for me.

David Murphy (aged 13)
Leicester

8000 PLUS: I agree, this does seem unfair. On the other hand, I don't know of any supplier of PCW games (or leisure software, as it is alluringly called these days) who will state in the advertisement if it works on the 9512 or not. I think you'll just have to put this one down to bitter experience and, in future, find out before you buy the games whether they will work on your machine. One way of doing this is to consult our very own Good Software Guide (the games section starts on page 76). If the game you're interested in only works on an 8000 series PCW, you'll find out here.

Gratefully received

Having spoken to you in desperation re. my PCW 8512 and the much needed repair of its B drive cover (nothing rude intended!), I felt that I must contact you in writing to sing the praises of Bath-based Software Plus (Green Park Station, Green Park Road, Bath) and its managing director, Neville Smith.

How refreshing in this very stressful day and age to meet a company whose approach is knowledgeable; based on Neville Smith's 20 years of sound computer experience, personal; based on Wendy Smith's empathy, and to cap it all, whose pricing policy is reasonable and fair.

At last somebody listens and immediately corrects what is admittedly a very small problem to your average Amstrad user, but to someone like me who has been disabled for 15 years with Multiple Sclerosis and whose PCW 8512 is an electronic lifeline back to the 'real world' I can only say: thank you everyone!

Gerry Brown
Weston-super-Mare
Avon

8000 PLUS: Glad to be of help. Software Plus have had occasion to come to our rescue more than a few times: it suffices to say that we don't even mention coffee and disc drives in the same sentence any more. There's just one thing I'd like to pick you up on, though: Wendy is, in fact, the Managing Director of Software Plus, not Neville. He's the Technical Director. Still, it's always good to hear from a satisfied customer, and I'm sure Neville and Wendy will heartily agree.

Up, up and away

Could an avid reader ask advice, please?

I have been teaching word processing at evening classes for the last 21/2 years and have identified a need for daytime classes in my area; I have so far obtained the promise of financial backing from the bank and details of how to register with the RSA to put on their examinations, so pending planning approval and deluges of eager students, it all looks set to go ahead.

However, I would be buying 8 Amstrad PCW 8512s – like the one I've had at home for four or five years and teaching LocoScript 2 mainly. When I mentioned the futility of being landed with eight copies of LocoScript 1 to the Amstrad Professional User Group representative who telephoned me, I was told there is a possibility of LocoScript 2 being sold with the 8512s in the near future. Can you confirm or refute this?

However, my main question is this: do I have to purchase eight copies of each program I wish to use if I expand into offering LocoMail, SuperCalc et al, or can I somehow get a site licence to use eight copies on the same premises? I wish to remain legal while becomingly disgustingly wealthy and I promise I would not be bribed into giving pirate copies of anything to my students past or present. (Most of them are useless without the explanatory manual, anyway.)

We have just received Rob Ainsley's '8000 Plus Collection'

and it's already become our bible. Rob should be canonised!
Keep up the excellent work on 8000 Plus.
Tricia Woodgate
Ivybridge, Devon

8000 PLUS: We've just spoken to Howard Fisher at Locomotive who has told us that LocoScript 2 won't be shipped with PCW 8512s until such times as Amstrad buy the licence to do it. And, from what we can gather, that doesn't look like being particularly imminent. Don't hold your breath is the answer to that one.

As far as having to buy eight copies of everything goes, there is such a thing as a 'site licence' which you would have to negotiate on an individual basis with the company supplying you with the software. This enables you to use a software package on more than one computer – provided that they are all installed at the same address.

8000 Plus - The collection

I would really like to thank your staff, past and present, for having produced The 8000 Plus Collection. It is a very handsome publication and I appreciate the extra work that has gone into preparing the text and the disc. It has given me great pleasure.

When I first started taking the magazine, as a beginner on my PCW 9512, most of it was unintelligible to me. I can now go back through past issues again and find I can learn more and more.

Incidentally, it puzzles me that neither the magazine nor the book appear to have taken advantage of LocoSpell. I cannot recommend it too highly for weeding out typographical slips. This letter was full of them until a moment ago. My favourite one so far in the book is on page 31: 'LocoScript is one of the most bug-free programs ever relaesed.'
J. Goodacre
Clarendon Park
Leicester

My sincere congratulations to all those involved in the Bath office, the Old Barn or wherever, in the production of this latest Tips publication. From what I have read so far, and it will take some time to digest everything, I think it rates an Amstrad health warning to the effect that every 8000/9000 owner should purchase, or even be supplied with, a copy!

How delighted I was to receive the publication before Christmas. It's certainly going to be a bestseller and I would have no hesitation in recommending it to anyone with a PCW. Indeed, I will go out of my way to spread the word.

While writing, thanks for such a wonderful magazine. Throughout my professional career in aeronautical engineering I have had to read technical manuals and magazines, and not all easy reading. How nice it is, in retirement, to look forward to and greatfully receive 8000 Plus each month with its easy reading style and careful explanation of technical details. Keep up the good work and don't worry about the odd moan from people who don't like the jokes. The majority I am sure appreciate its total content.
B J Joint
Watford

8000 PLUS: You bunch of sweet talkers, you. Thanks a lot – and Happy New Year!

"HEY ROBERT MAXWELL — YOUR TEA'S READY!"

Compatibility ratings

Re. John Smith's enquiry about loading his LocoScript 2 files directly into a DTP program, perhaps he (and you) might be interested to know that Micro Design II will not only load his LocoScript 2 files directly (without resaving them as ASCII files) but will even preserve the style and formatting codes used for bold, italics, centred text and so on. This kind of full compatibility certainly is 'the exception rather than the rule', so if there is an exceptional program, why not mention it?
Nik Holmes
Creative Technology

8000 PLUS: Thank you, Nik; you just did.

Missing address mark

I have supported 8000 Plus since it began. I bought issue 1 in W H Smiths in High Wycombe and immediately subscribed. When I began my business I obviously chose 8000 Plus to advertise in. This I have done over the last eighteen months with a short break when the price went up. While I realise that you have had no experience of my service or testimonials from customers, I feel aggrieved that in spite of my support, when someone writes in asking about data transfers to an IBM format (see December Postscript's 'Loco in motion') I don't get a mention. Instead, people are usually referred to Grey Matter or now Word Print.

I am not asking for exclusivity. I am not suggesting that since I am the only regular advertiser of such a service I am the only one that should be mentioned. What I am asking for is a little even handedness.

So much for my moans. As I said at the beginning, 8000 Plus continues to set the pace among the PCW magazines. Please make sure that you continue in the tradition of the magazine and keeep it the best.
Digby L James
Mapej Disk Copying Service
Mitcham
Surrey

8000 PLUS: We are bombarded all day every day with company names, locations and services; and even when they appear – as yours does – in the magazine on a regular basis, we're still apt to forget them from time to time. That's why whenever we do neglect to give somebody a mention, we appreciate receiving timely and civil reminders like this one. Sorry about that, Mr James; I promise to try harder.

Harlow revisited

I was interested to read the letter in your December issue from G Lewis of Clockwise Enterprises regarding a company called Cut Price Software. I also got burned for £20 by this bunch for a copy of Mini Office Personal, though the address I have is 17 Stapel Tye, Harlow, Essex CM18 7LX, not the Lewes address G Lewis quotes.

Your Advertisement Manager was quite right to say you've carried no advertising for Cut Price Software this year. You are, however, carrying advertising for a company called AV Marketing Ltd on page 63 of the December issue. Their address is also 17 Stapel Tye, Harlow, Essex CM18 7LX, though their telephone number is different.

Whether they are the same people operating under a different name I have no idea; they may simply be in the same building, but I think I might be a bit wary.
Rev. Stephen Coombs
Cannock
Staffordshire

8000 PLUS: The good news is that Mike Mordecai of AV Computing Ltd has absolutely nothing to do with Cut Price Software and is merely occupying the same premises. He told us that there were originally three companies working from the same building – and Cut Price Software and AV Computing were two of them.

For those of you who lost money to Cut Price before their collapse, try 'phoning the company's solicitors – Giess Osbourn and Partners, 10 Mulberry Green, Harlow in Essex – on 0279 27431.

New and old

Re. November's Postscript letter 'Designs on you' from Lola and Martin Taylor.

Yes, there are some people out there who are interested in computers and handcrafts. Embroiderers, quilters and machine knitters all use computer programs for working out designs and inventing new variations; I have seen several articles about this. I suggest you go into a large, well-known newsagents and browse until you find what you want. In my latest copy of 'Embroidery', there is a small ad. for The Stitch Grapher by MGA Softcat, Pear Tree Cottage, Appledore, Kent TN16 2AR.

The following guilds all publish a magazine or newsletter and back numbers are usually available: The Embroiderers Guild, Apartment 41A, Hampton Court Palace, East Molesey, Surrey KT. Mrs Elizabeth Gillett, The Knitting and Crochet Guild, 5 Roman Mount, Roundhay, Leeds LS8 2DP, and finally Judi Watson, The Quilters' Guild, 25 Churchfields, Tickton, Beverley, N. Humberside HU17 9SX.
Alyson Bradley
Croydon

8000 PLUS: Just goes to show the uses to which you put your computer can never be too traditional!

The common weel

All we need, we who are moving on as soon as

POSTSCRIPT

LocoScript get their program for the PC up and running, is some clever disc manufacturer to make a disc that will slot into both the 3" drive of the PCW and the 31/2" drive of the PC.

It cannot be beyond the wit of man to make such a thing, surely? Then we could change all our files from machine A to machine B without any angst and all this stuff about interfaces and null modem cables and what-have-you would be an unnecessary expense.

Reverend John Ticehurst
Braunton, North Devon

8000 PLUS: Interesting idea. It has to be said, though, that such boundlessly optimistic faith in the capabilities of computer hardware designers is touching in the extreme. I guess we reached our limitations with test-tube babies and putting the first man on the moon.

CADzooks!

I am writing to ask for your advice regarding the availability of a CAD package that will enable me to plan and design kitchen and bedroom furniture as I am soon to commence employment in that field.

As I am a newcomer to the world of computers (I've only had my PCW 8256 for three weeks) I'm at a bit of a loose end as to where to find such a package. Is there a relevant CAD program built into The Desktop Publisher for instance? I would be very grateful for any information you could give me.

Brian Dobison
Whickham, Tyne and Wear

8000 PLUS: Try any of the following: PCW Draw from HTB Computing (0794 516279), Sketch Pad (£14.95) from Composit (0952 595436) or Digital Research's DR Draw which you might be able to get second-hand.

Burning screen

Having regard to the benefits of leaving my computer on more or less all the time, I have sought without success a means of clearing the screen completely at times when the machine is not in use to prevent screen burn. In the event, I have resorted to calling up SET 24 * 80, which clears the screen – except for the A> prompt – and turning the brightness to its lowest level.

Any suggestions? I might even accept a line or two of BASIC.

Christopher Whitehouse
Tutbury
Burton on Trent

8000 PLUS: Well, courtesy of G M Dematine from Nelson in Lancashire, we can bring you the very lines of Maltard BASIC you need:

```
10e$=CHR$(27):c$=e$+"H"+e$+"E"
20 curon$=e$+"e":curoff$=e$+"f"
30 print c$:print curoff$
40 input"",a$
50 a$=upper$(a$)
60 if a$ = "B" then goto 80
70 print curon$:system
80 print curon$:end
```

Press B followed by [RETURN] to return to BASIC, or just [RETURN] to return to the A> prompt.

Trainee writer

Having used a Sirius Word Star word processor several years ago and fancying myself as a writer, I bought an Amstrad PCW 9512. Child's play, thought I.

Not so, not so! I need help and suspect that the easiest way is to go on a short user's course. However, I have seen none advertised and wonder if you would be kind enough to send me details of any that you know of in and around South London.

Until then, printing out my masterpieces and bestsellers will have to remain an idle dream!

V Battenti
Orpington
Kent

8000 PLUS: You've got a number of options. Although there aren't any training companies right on your doorstep, there are a number of places in London with whom you can arrange specific PCW word processing training. Talk to any of the following:
Banna Word Processing (01 493 3336)
Digitus Training (01 251 1010)
PS Partnership (01 379 3198)
Office International (01 387 9339)
No Hassle Computing (01 675 3139) or CTC UK Ltd (0202 299676).
Headline Communications will offer specific PCW 9512 training on audio-cassette and disc. Call them on 0602 603623 for further information.

Agenda planning

I was very pleased when you announced a series of tests on hand-held computers as I am thinking of buying one.

I enjoyed the first two reports from which it would appear that the Psion is clearly superior to the Sharp IQ.

The machine I have in mind is the AgendA, mainly because of the Microwriter facility of input which, if practical, would seem to overcome the objection to all other products of this size; ie, the impossibility of rapid input of text on the tiny keyboards.

Are you planning to feature the AgendA in the near future?

Unless it will be featured in the next issue, I would be most grateful if you could write and let me have your opinion on this machine and if it is possible for it to input/output information with my PCW 8512.

Thank you in advance for your help.

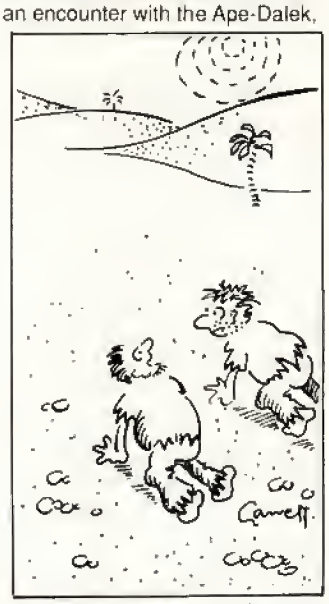
J R Jackson
Stourport on Severn
Worcestershire

8000 PLUS: We've had a lot of letters like yours over the past few weeks. We'll be carrying out an in-depth review of the AgendA in next month's issue.

'For those of squeamish disposition...'

He, the Coxs' desperate plea for directions to the Emperor's Throne Room in Head over Heels (see December Postscript's 'Royal Flush'). First collect all four Crowns.

When you've passed the entrances to the Four Worlds and turned right, you can use a jump and swop identity routine to gain that essential little bit of height to reach the well-nigh-impossible space station door (you know, the one you think only Heels can get up to). Enter transmitter, shoot sprite in next room, turn right, enter next transmitter, carry the spring that you never could reach from below, jump down from the ledge to the even-more-well-nigh-impossible Castle door, go straight on through the next room, turn right and after another three rooms and an encounter with the Ape-Dalek, you reach the Throne Room.



"I KEEP THINKING IT'S JUST AN ADVENTURE GAME ON MY PCW"

Try combining actions on the PCW keys. Set up one group for movement in all directions as usual, another for jump and swap identities simultaneously. Use highlighter on the keys to keep you orientated.

Jim Mackay
Aberdeen

8000 PLUS: It would appear that 8000 Plus readers are enjoying themselves far too much these days. The Coxes have been literally inundated (or rather, the office has on their behalf) with letters from crazed Head over Heels junkies desperate to share the secrets of their jump and swop successes.

For anybody who's stuck anywhere else in the game, I understand that Amstrad Action, our sister magazine, published a complete map of the game in one of their issues a couple of years ago.

Public assembly

It was good to see Steve Patient highlighting the excellent utilities available to assembly programmers from public domain in the December issue. There were one or two problems with Z8E that prospective users should be aware of. The version in SIB/M 239 that he mentions won't work properly on the PCW. Z8E must therefore be modified – as has SID – to use RST 6 for its breakpointing. Easy enough if you know how. Several versions modified in this way are available from various libraries, but none, so far as I know, have corrected the bug which prevents symbol tables being written to disc properly. I have a version that corrects these and several other bugs, although I won't claim that I've found them all.

If any readers want a copy, then they can send me a formatted disc and a SAE with a quid in it – otherwise I'll be wearing out my disc drives – and I'll send them an amended version complete with the documentation.

Contrary to what Steve says, there is a very good 8080 assembler book still in print – at least, I've seen it in several bookshops recently, which although is not PCW-specific, is great for learning the code. It's 'Soul of CP/M' by Mitchell Waite and Robert Lafore, and published by H W Sams at £16.95.

Mick Reed
11 Older Way
Angmering
Sussex BN16 4HQ
(Tel: 0903 775039)

8000 PLUS: Thanks for your letter, Mick.

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- ★ Also has a 'Sequence Predictor' option. Many people believe that certain numbers on the coupon come up more often than others and over a season patterns do seem to develop. The programme analyses these patterns and predicts the numbers most likely to come up next. Certainly more scientific than sticking a pin in or family birthdays etc!

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Amstrad User Club	4	Kosmos	32
Ansible Information	72	Laser Images	60
Arnor Ltd	58	Little Office	41
Astrocalc	72	Locomotive Software	14, 17
A V Marketing Ltd	65	Manx Tapes	77
BBD Dust Covers	68	Margin Maker	85
Bradway Software	24	McGregor Software	60
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Copy Comm	33	Pinboard Computers	62
Cornix Software	19	Pinfold Print	80
Creative Technology	9	RSC	22-23
Data Access	85	SBS	9
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COMPETITION

FIRST PRIZE

£500-worth of Cirtech's Diamond hard disc (see October review) will be winging its way to the winner of this month's competition. Not only can you connect up to 7 PCWs to it at the same time, it is also the only hard disc from which you can automatically boot your PCW.

To make sure the New Year gets off to a good start, we've got well over a thousand pounds' worth of prizes sitting here in the office waiting to be shared out among 14 lucky competition winners. Five simple questions are all that are standing between you and our fabulous first prize; Cirtech's Diamond 48 MB hard drive. If your name isn't first out of the hat, however, there are still plenty of other equally indispensable prizes waiting to be claimed.

What about breaking into the world of high-speed comms with a Hayes compatible Linnet V21/V23 modem, complete with autodialing, answering and 32 name store? Cross the line in second place and it will be yours. Third runner-up will receive equally practical hardware in the form of SCA's Systems Professional interface (see last month's review.) This is the version that comes with the in-built battery-backed clock so that your PCW system clock can be set to automatically show the correct time whenever you switch on the machine - a useful addition to anybody's desktop.

Fourth prize will be appropriate for any music-loving winners. Composit Software's Composer's Pen will have your printer churning out those chart-topping hits one after the other.

If you're interested in fast scrolling and a word count, then two copies of the word processing package that we use here in the 8000 Plus office - Protext from Arnor - will also be up for grabs.

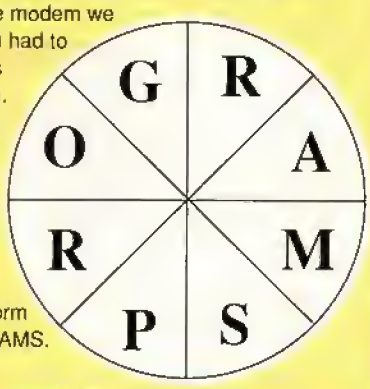
Campbell Systems, on the other hand, are offering efficient and trauma-free data upkeep to the winners of the two copies of Masterfile 8000 (also reviewed last month) which they have kindly donated to the New Year lucky dip.

Locomotive, as we all know, are never ones to miss out on a party - and this one's no exception. Howard Fisher has thrown in two copies (8000 and 9512 versions) of LocoFile one of the friendliest PCW databases around. Plus, more power to your programming elbow! If you liked our review of PCW World's Streamlined BASIC earlier on this issue, sharpen your pencils and get thinking: *four* copies of this improved Mallard BASIC are waiting to be won.

The rest is up to you. On the front of this month's issue is a card on which you will find five multiple choice questions to do with calendars and the New Year. Ring the correct answers and send it in. Don't waste time though; the competition closes on the 21st of January. ■

Competition Winner

Cast your minds back to our November competition and you will remember that in order to win the Hi-Tec fully Hayes-compatible modem we were offering, you had to complete Thomas Jones' word circle. Well the first envelope out of the hat belonged to C Hughes from the Isle of Wight who correctly completed the puzzle below to form the word PROGRAMS. Congratulations!



8000 PLUS

The February issue of 8000 Plus will be in your newsagents on January 25th, 1990. They won't be stocking up for long - order your copy now!

Next month

How well does Microwriter's AgendA talk to the PCW?

What's on the AgendA?

Responding to popular demand, we check out the credentials of Mircrowriter's pocket-sized electronic personal organiser and find out how well it talks to the PCW. We'll also be taking a look at the sort of people who can expect to get the most out of it.

Using the PCW as a FAX machine

Why not save yourself the £600 - £700 or so that it will cost you to buy a new FAX machine and use your PCW instead? Next month sees the PCW move up a few gears as it breaks into the world of rapid communication.

PCWSuperDOS

If you're one of those people who have always found the CP/M A> prompt unfriendly, this original new system from Encyclasoft offers you the chance to throw it over for good. PCW SuperDOS is, say its creators, an altogether more friendly desktop environment which has been closely modelled on the LocoScript disc management screen. We'll be reviewing it next month.

Going FORTH

Aside from programming the animation sequences in Star Wars, to what other uses can you put this computer language that was originally designed for use by astronomers. Read our overview of a language that doesn't have to be just a stack of Reversed Polish arithmetic.

Making the famous work for you

Intrigued? This one's all about how you - as a writer - can get the most out of meeting well-known people by marketing those special 'celebrity' articles.

Exploding myths (part II)

This month, the Gods obviously weren't willing. Hopefully, they will be next month when we'll be reviewing Myth, the game for the PCW that's got more Poseidon and pizazz than an American block-buster.

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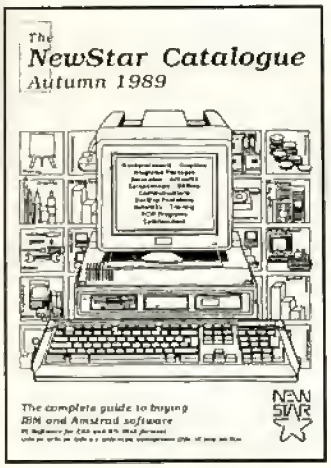

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Several feature data and skill portability to MSDOS (IBM PC) systems, so skills learned on the PCW can be carried forward with no wasted effort. ❑

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To mark the appearance of our first major new catalogue for over a year, we are giving away a free copy of the *Trivial Pursuit* game, or for the more serious minded user, a copy of the outstanding keyboard trainer, Touch 'n' Go - with each order for £50 worth of PC software, accompanied by a copy of this advert. Offer applies until September 30th 1989. ❑

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Move files between any combination of these systems using the serial connector lead supplied.

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still the only high res graphic spreadsheet for PCW users

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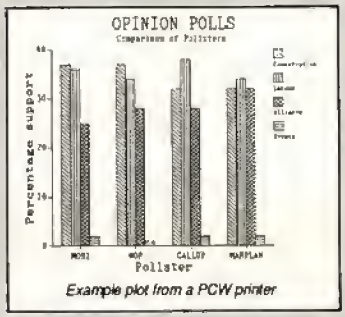

Example plot from a PCW printer

unsurpassed for the serious spreadsheet user. And don't forget, like newWord, Cracker users can upgrade to MSDOS and CDOS systems, taking all data and experience as you go!

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